AMATEUR RADIO CATALOG

WINTER '96/97

ORDER TOLL FREE: 1-800-558-0411 *Our 40th Anniversary!*

AMATEUR ELECTRONIC SUPPLY® INC.

5710 W. Good Hope Road; Milwaukee, WI 53223 • 414-358-0333 • *fax* 414-358-3337 • *Toll Free* 1-800-558-0411
BBS: 414-358-3472 • *www:* http://www.aesham.com • *e-mail:* help@aesham.com

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Wickliffe, OH 44092
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1-800-327-1917
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Monday thru Friday
9:00 AM to 5:30 PM
Saturday
9:00 AM to 3:00 PM

40 YEARS IN AMATEUR RADIO!

"A Whole New World of Ham Radio"
PC-16000 HF Transceiver

Imagine CW/RTTY Without A Key or Computer

Featuring Automatic CW & RTTY Encode & Decode Plus Digital Signal Processing

Patcomm Corporation proudly introduces the PC-16000: a full featured HF Transceiver with a patented* built-in keyboard interface. Simply plug the standard keyboard (included) into the PC-16000 and instantly enjoy CW and RTTY data communications. Incoming Morse and RTTY data is decoded and displayed on the built-in LCD display. Data is also sent to an RS-232 serial port for display on a "Dumb Terminal" or equivalent. A whole new world of Ham Radio is here now.

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14.247000←T 1031
14.247000←R M200
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◄ Standard Display shows RX/TX VFO Freq's, time and current memory

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YOUR MESSAGE HR
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◄ Incoming Data

◄ Your Outgoing Data

*US Patent Granted

ADVANCED FEATURES:

- **Power Output:** Adjustable 1 to 100 Watts (160 thru 10 Meter Ham Bands)
- **DSP Filtering System:**
  - ***Includes:***
  - 2.4Khz, 1.8Khz, 500Hz, 250Hz and RTTY "Brick Wall" DSP Filters
  - DSP Autonotch Filter for SSB
  - DSP "Denoiser" Reduces Background Noise
- General Coverage Dual Conversion Receiver (1.5–29.9 Mhz) USB, LSB, CW, RTTY and AM
- Collins Mechanical Filters Included
- Highly Effective Noise Blanker
- IF Shift
- Built-In Digital Power/SWR Meter
- Built-In Iambic Keyer (5–75 WPM)
- 100 Memories Plus Scratchpad
- Selectable Tuning Speed: Fixed and Variable
- Built-In Keyboard Interface (Keyboard Included)
- Front Panel Selection of 3 Antenna Inputs
- RS-232 Port(s) for "Dumb Terminal" Display
- Manual Notch for CW and RTTY Modes

Designed & Manufactured in the U.S.A.

patcomm corporation

We Welcome AES as Patcomm's Newest Distributor!

Phone: (516) 862-6512 ■ Fax: (516) 862-6529
7 Flowerfield M100, St. James, NY 11780

AES® Amateur Radio Equipment Price List

WINTER '96/97

★ COMPLETE EQUIPMENT & ACCESSORY INVENTORIES ★ COMPETITIVE PRICING ★ FAST SHIPPING ★ TOP TRADES ★ USED GEAR ★ SERVICE DEPARTMENT

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All prices & specifications are subject to change without notice. Due to foreign currency fluctuations, promotions, manufacturer's specials, etc., prices may vary. Please confirm prices before ordering. AMATEUR ELECTRONIC SUPPLY® is not responsible for typographical errors or omissions.

CODES SHOWN NEXT TO PRICES

(T) • Item too large for UPS. Truck shipment only. No COD, send payment in advance or use charge card for merchandise; freight charges will be collected upon delivery

NOTE: Charges for truck shipments from 1-99 lbs are running a **minimum** of $80.00, plus local destination charges. It is advisable to contact a local freight office for a quotation.

(D) • **DISCONTINUED** by Manufacturer but still available from stock in limited quantities when this price list was published.

(†) • **TEMPORARY LOW PRICE** due to Special Purchase, overstock, etc. Quantities may be limited at price shown.

(Δ) • Item *not* discontinued by Manufacturer but probably will not be available from our stores when present stock sold out.

End of line STORE LOCATION CODES – means Close-out or Special items were at these stores: (m) Milwaukee; **(w)** Wickliffe; **(f)** Orlando; **(c)** Clearwater; **(v)** Las Vegas; **(*)** all stores

Flat-Rate SHIPPING INFORMATION

AMOUNT OF ORDER	UPS GROUND SHIPPING HANDLING & INSURANCE
Up to $100.00	$4.00
$100.01 to $500.00	$8.00
$500.01 to $1499.99	$12.00
$1500.00 & UP	$16.00

• Shipping/Handling/Insurance Charges are based on the Order Total at the time of the initial shipment. Changes made to a partially shipped order will not affect the shipping charges • Order amount is Pre-Coupon & Pre-Tax • COD fees Not Included, add $6.50 per carton • Includes adequate insurance • Backorders shipped prepaid at **AES®** expense • Other UPS shipping methods are charged at Regular Rates with No Credit for UPS Ground rate • Does Not Apply to Truck or DROP-SHIPMENTS

ADI/Premier (ADI)

	Reg	Sale
AT-200 2.5w 2m FM HT/batt/cgr/TTP	$199.95	164.95
AT-200HP 5w 2m HT/batt/cgr/TTP	219.95	189.95
AT-201 2.5w 2m FM HT/batt/cgr/TTP	214.95	179.95
AT-201HP 5w 2m FM HT/batt/cgr/TTP	234.95	199.95
AT-400 2.5w 440 FM HT/batt/cgr/TTP	214.95	179.95
AT-400HP 5w 440 FM HT/batt/cgr/TTP	234.95	199.95
AT-401 2.5w 440 FM HT/batt/cgr/TTP	229.95	194.95
AT-401HP 5w 440 FM HT/batt/cgr/TTP	249.95	219.95
AT-600 2.5w 2m/440 FM HT/batt/cgr/TTP	399.95	299.95
AT-600HP 5w 2m/440 FM HT/batt/cgr/TTP	419.95	329.95
ARC-12 Smart charger	89.95	
CHA-072 Wall charger for 7.2v battery	12.95	
CHA-120 Wall charger for 12v battery	12.95	
CPB-262/CBP-262 Batt holder; 6 AA nicads	19.95	
PCA-145 Cig lighter adapter cable	14.95	

ADI/Premier - continued

	Reg	Sale
RBP-072 7.2v 700ma battery	49.95	
RBP-120 12v 600ma battery	69.95	
SLC-200/SLC-200-S 2.5w carrying case	18.95	
SLC-200-L 5w carrying case	20.95	
SPM-100 Spkr/mic; ADI/Standard/Yaesu ..†	27.95	19.95
SPM-101 Speaker/mic for Kenwood	29.95	
SPM-200 Lapel mic/earph; ADI/Sta/Yaesu †	18.95	12.95
SPM-201 Lapel mic/earphone for Kenwood	19.95	
SPM-300 Spkr/mic/lock/volume; ADI/Sta/Yae	34.50	
SPM-301 Spkr/mic/PTT lock/volume; Ken	36.50	
SPM-400 Ear/mic; ADI/Standard/Yaesu	25.95	
SPM-401 Ear/mic for Kenwood	26.95	
SPM-500 Throat/mic/earph; ADI/Sta/Yae	59.95	
SPM-501 Throat/mic/earphone for Kenwood	61.95	
AR-146 50w 2m FM Xcvr w/TTP mic	279.95	249.95
AR-446 35w 440 FM Xcvr w/TTP mic	345.95	299.95

AEA

DC-1 Cigarette lighter cord ....Δw	$ 7.00	4.95
KK-1 Keyboard keyer for IBM PC	199.00	189.95
KKCOM Optional utility program	49.00	

DATA CONTROLLERS

PK-12 1200 bps VHF/UHF packet controller	$119.00	109.95
100K/PK-12 100K MailDrop upgrade; PK-12	50.00	
AC-1 12vdc 600 ma adaptor	21.00	
APRS Adapter cable for GPS Rcvr to TNC	30.00	
PK-96/18K 9600 baud packet controller/32K RAM	239.00	199.95
100K 100K memory upgrade for PK-96	50.00	
PK-96/100K 9600 baud controller/128K RAM	289.00	259.95
PC Pakratt Lite Packet only terminal prog	49.00	44.95
PK-232MBX Controller/VHF/HF modem/FAX Dmwfv	379.00	299.95
PK-900 Multi-mode digital controller w/FAX	569.00	469.95
DSP-232 Multi-mode data controller	495.00	429.95
DSP-1232 Single port multi-mode controller Δmwfv	850.00	749.95
DSP-2232 Switchable ch multi-mode controller	1100.00	999.95
9600 bps modem card option for PK-900	75.00	
AC-4 12vdc 1A power supply	32.00	
ACARS Aircraft data reception software	90.00	
ACARS/900 Air data reception soft; PK-900	50.00	
AEA-FAX III-900 PK-900/IBM FAX software	75.00	
COM Pakratt w/FAX C64 prog; PK88/232 Δc	79.00	69.95
MacRATT III Mac program; sys 6.05-7-7.5	99.00	
PC-Pakratt II w/FAX IBM prog; 12/88/232	69.00	64.95
PC-Pakratt for Windows 2.0 IBM; 12/88/232	129.00	119.95
Log Windows 3.0 Program for IBM	49.00	
Extra PK-232 to radio open ended **cable**	9.00	
IH CABLE PK-232 - Icom/Yaesu/Alinco HT	25.00	
IM CABLE PK-232 - Icom 8-pin mic cable	25.00	
IW CABLE PK-232 - Icom W2A cable Δmwfv	25.00	19.95
KA CABLE PK-232 - Kenwood 13-pin cable	30.00	
KH CABLE PK-232 - Kenwood HT cable	25.00	
KM CABLE PK-232 - Kenwood/Ali 8-pin mic	25.00	
YM CABLE PK-232 - Yaesu 8-pin mic cable	25.00	
Technical manual; PK-232	25.00	

AEA - continued

	Reg	Sale
WeFax-256 WX FAX prog; DSP-1232/2232	129.00	119.95
AEA-FAX III Facsimile & wire photo program	149.00	99.95
IDR-96 5w 441.05MHz data Xcvr 9600 baud	499.00	449.95
IDR-96/Custom 440 data 9600 spec freq spec order	525.00	479.95
Morse University II Morse code Windows software	39.95	
PCB-88 IBM plug-in packet adapter .....Dmwfcv	179.00	99.95

ANTENNAS

IsoLoop 10-30 150w 10-30MHz 43" loop/50'cable	$499.00	449.95
50' shielded **loop cable**, **new** style	29.00	
100' shielded **loop cable** w/connectors	39.00	
IT-1 IsoTuner Automatic tuner for IsoLoop	279.00	239.95
HALO-6 6m loop antenna	69.00	
IsoPole 144 2m base station antenna	63.00	
IsoPole 220 220MHz base station ant Δmwfv	63.00	49.95
IsoPole 440 440MHz base station antenna	95.00	
HR-1 2m ½ wave telescopic whip w/BNC	29.00	
HR-2 220MHz ½ wave telescopic whip w/BNC	29.00	
SWR-121 HF Antenna performance analyzer	399.00	349.95
SWR-121V/U VHF/UHF ant performance analy	469.00	399.95
AA.COM SWR curve IBM soft; 121/121V/U	75.00	69.95
Carrying Case For SWR-121/121V/U	29.00	

MISCELLANEOUS

ARE-60/HL-60 HamLink Phone controller	$269.00	239.95
ARE-61/HL-61 Interface cable for Icom	50.00	
ARE-62/HL-62 Interface cable for Kenwood	50.00	
ARE-63/HL-63 Interface cable for Yaesu	60.00	
OP-80 OpLink For fast CW/stereo headset	130.00	109.95
DM-1 2m/220/440 FM deviation meter	169.00	159.95
RL-60 Radio Link HF remote via handheld	329.00	289.95
ST-1 Satellite tracking hardware/software	399.00	369.95
World Clock .....Dmwv	25.00	9.95

AES (AES)

Pentium 100 100MHz Intel/1.2Gig/8M/.28SVGA	1249.95
Pentium 133 133MHz Intel/1.6Gig/16M/.28SVGA	2249.95
Quad Speed CD-ROM drive	129.95

Call Ron or Dick at Milwaukee for AES® COMPUTERS
The Two Year Parts and Labor Limited Warranty is handled by: ASC Computers of West Allis, Wisconsin.

ARRL (ARR)

100 1996 Radio Amateur's HB/soft .....Dmwfcv	$ 38.00
101 1997 Radio Amateur's Handbook/software	38.00
110 200 Meters and Down (early ham radio)	8.00
115 AX.25 (packet radio)	8.00
120 Advanced Class License Manual	12.00
126 Antenna Book w/IBM software	30.00
130 Antenna Compendium	10.00
135 Antenna Compendium II	14.00
138 Antenna Compendium IV w/software	20.00
140 Antenna Impedance Matching	20.00

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40 YEARS IN AMATEUR RADIO!

ARRL - continued

		Reg	Sale
145	Complete DX'er	12.00	
150	Data Book	15.00	
156	Extra Class License Manual	12.00	
160	FCC Rule Book	12.00	
165	First Steps in Radio	6.00	
170	General Class License Manual	12.00	
180	Grid Locator Atlas	5.00	
182	Ham Radio Made Easy	15.95	
185	Hints and Kinks	10.00	
190	Hostage in the Woods	6.00	
195	Introduction to Morse Code cassettes	10.00	
198	Introduction to Radio Frequency Design	30.00	
200	Log Book	3.50	
205	Low Profile Amateur Radio	8.00	
210	Morse Code the Essential Language	6.00	
215	Morse Tutor software for IBM	20.00	
220	Night Signals	5.95	
225	North American Repeater Atlas	10.00	
230	Novice Notes: The Book	6.00	
236	Now You're Talking II (new ham)	19.00	
240	Operating Manual	22.00	
249	1997 Passport to Worldband Radio	19.95	
252	Packet: Speed, More Speed & Applications	15.00	
253	Practical Packet Radio	15.95	
254	1995 ARRL Periodicals CD-ROM	19.95	
255	QST binder	12.00	
256	QRP Power	12.00	
260	RFI-How to Find It & Fix It	18.00	
265	Radiogram message blanks .....pad	2.00	
271	1996-97 Repeater Directory	8.00	
272	Repeater Directory software	14.95	
276	Satellite Anthology 4th edition	12.00	
280	Satellite Experimenter's Handbook	20.00	
285	Set 1 5-10 wpm code practice cassettes	10.00	
290	Set 2 10-15 wpm code practice cassettes	10.00	
295	Set 3 15-22 wpm code practice cassettes	10.00	
300	Set 4 13-14 wpm code practice cassettes	10.00	
305	Solid State Design	15.00	
310	Technician Class License Manual	6.00	
316	Technician Exam Review Guide	9.95	
320	Transmitter Hunting	19.00	
328	Understanding Basic Electronics	20.00	
330	W1FB's Antenna Notebook	10.00	
335	W1FB's Help for New Hams	10.00	
340	W1FB's QRP Notebook	10.00	
345	World Map	12.00	
354	Your Mobile Companion	12.00	
356	Your VHF Companion	8.00	
357	Your Ham Antenna Companion	10.00	
358	Your Packet Companion	8.00	
361	Your HF Digital Companion	10.00	

TOMPKINS BOOKS

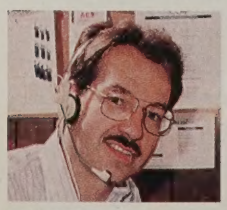
360	CQ Ghost Ship	$ 5.00	
365	DX Brings Danger	5.00	
370	Death Valley QTH	5.00	
375	Grand Canyon QSO	5.00	
380	Murder by QRM	5.00	
385	SOS at Midnight	5.00	

RSGB PUBLICATION

405	Radio Communications Handbook	$ 35.00	

AIM (AIM)

24-7735P	Coax stripper; RG-58/59/62	$ 38.25	19.95
24-7736P	Coax stripper; RG-59/6/8281	38.25	19.95
24-7739P	Coax stripper; RG-8/11/213	62.85	29.95
37-208	6-socket wall surge protector .....Dm	32.85	6.95
37-503	6-socket surge/EMI/RFI filt ..Δmwfcv	41.85	19.95
38-305	500ma 3/4.5/6/7.5/9/12vdc adapter	14.85	12.95
38-312	1.2A 1.5/3/4.5/6/7.5/9/12vdc adapt	43.50	24.95
38-384	4A power supply, 5A surge	97.50	39.95



DALE, N9BRX
Milwaukee Store Manager

Satisfaction is my concern. If you have a problem, call me!

1-800-558-0411

AIM - continued

		Reg	Sale
64-3UUP	3' RG-58 w/PL-259s	6.75	
64-6UUP	6' RG-58 w/PL-259s	7.95	
64-9UUP	9' RG-58 w/PL-259s	8.85	
64-12UUP	12' RG-58 w/PL-259s	10.50	
64-18UUP	18' RG-58 w/PL-259s	11.70	

ALINCO (ALI)

ACCESSORIES FOR DISCONTINUED HT'S

EBP-12NA	12v 700ma quick charge batt Δm	$ 61.00	
EDC-2	Cig charging cord; EBP-7NAZ .....Δm	9.00	
EDC-8Z	Mobile DC pwr cable w/filter .....Δmv	20.00	
EDC-16	Cigarette lighter cable .....Δmf	12.00	
EDC-22	Wall charger for EBP-12NA .....Δmfv	22.00	
EDC-26	DC cord/cgr w/filter; EBP-10NA ..Δmfv	17.00	
EDH-1	Dry cell battery case .....Δm	14.00	
EJ-6U	Tone squelch unit .....Δm	42.00	39.95
ESC-10	Case; DJ-162T w/EBP-10NA .....Δmfcv	21.00	14.95
DJ-F1T	2w 2m FM HT/batt/cgr/TTP .....Dmwfv	349.00	188.95
DJ-F1T/HP	5w 2m FM HT/batt/cgr/TTP Dmwfv	379.00	208.95
DJ-180T	2w 2m FM HT/batt/cgr/TTP ..Dmwfcv	187.00	169.95
DJ-180TH	5w 2m FM HT/batt/cgr/TTP Dmwfcv	209.00	189.95
DJ-480T	440 FM HT/batt/cgr/TTP	245.00	219.95
DJ-582T	2.5w 2m/440 FM HT/batt/cgr/TTP	360.00	329.95
DJ-582TH	5w 2m/440 FM HT/batt/cgr/TTP	383.00	349.95
EBC-3	Belt clip	5.00	
EBC-5	Shoulder belt w/soft case .....Δwfv	54.00	19.95
EBC-6	Mobile bracket for DJ-180T	16.00	
EBP-14N	7.2v 400ma thin nicad; F1T Δmwfv	62.00	29.95
EBP-16N	7.2v 700ma nicad; DJ-F1T ..Δmw	47.00	39.95
EBP-18N	12v 600ma nicad batt; DJ-F1T	74.00	
EBP-22N	12v 700ma batt; 180/582 .....Dwc	70.00	
EBP-24N	7.2v 1200ma batt; 180/580/582T	78.00	
EBP-26N	7.2v 700ma battery; 180/582	41.00	
EBP-28N	12v 700ma batt; 180/582	68.00	
EDC-24	Cgr;14/16/18/20/22/24/26/28 .Dmwfcv	24.00	
EDC-45	Quick charger (not for F1)	99.00	
EDC-8B	Mobile DC power cable w/filter	21.00	
EDC-37	13.8v power cable	7.00	
EDC-43	Cig lighter cable	8.00	
EDC-49	Batt cgr; EBP-20/22/24/26/28N	23.00	
EDH-5	AA dry cell pack	14.00	
EDH-11	AA alk pack; DJ-180/580/582T	10.00	
EDH-12	DC jack adapter; DJ-180T	10.00	
EJ-12U	Tone decode unit; DJ-F1T	51.00	
EJ-14U	50 ch memory unit; DJ-180T	21.00	
EJ-15U	200 ch memory unit; DJ-180T	29.00	
EME-4	Ear/microphone w/PTT	34.00	
EME-6	Earphone	11.00	
EME-10	EME-10K Headset w/VOX/PTT	71.00	
EME-11	Ear/microphone w/PTT/VOX	52.00	
EMS-2Z	Speaker/mic	44.00	
EMS-8Z	Remote speaker/mic	48.00	
ESC-15	Soft case for DJ-F1T	17.00	
ESC-17	Soft case; 580/582T w/EBP-20N	14.00	
ESC-18	Soft case; DJ-180T w/EBP-20N	14.00	
ESC-19	Soft case; DJ-180T w/EBP-22N	18.00	
ESC-26	Soft case; 580/582T w/EBP-22/24N	14.00	
DJ-G1T	2m FM HT/batt/cgr/TTP/ch scope	258.00	229.95
EBC-6	Mobile bracket	16.00	
EBP-30N	7.2v 700ma nicad battery	50.00	
EBP-31N	7.2v 1200ma nicad battery	79.00	
EBP-32N	12v 722ma nicad battery	95.00	
EDC-8B	Mobile DC power cable w/filter	21.00	
EDC-37	13.8v power cable	7.00	
EDC-52	Quick charger	119.00	109.95
EDC-55	Wall cgr; EBP-30/31/32N	23.00	
EDH-14	Dry cell battery case	15.00	
EJ-16U	Tone squelch unit	57.00	
EME-12	Headset w/earphone/mic/VOX	70.00	
EME-13	Headset w/ear bud/mic/VOX	70.00	
EME-15	Earphone/mic w/VOX	55.00	
EMS-8Z	Remote speaker/mic	48.00	
EMS-9	Speaker/mic	44.00	
ESC-23	Soft case for EBP-30N	16.00	
ESC-24	Soft case for EBP-31N/32N	21.00	
DJ-191T	2m FM HT/batt/cgr/TTP	235.00	209.95
DJ-191TH	5w 2m FM HT/batt/cgr/TTP	258.00	229.95
DJ-G5TH	2m/440 FM HT/EBP-36N/cgr/TTP	429.00	389.95

ALINCO - continued

		Reg	Sale
DJ-G5TY	2m/440 FM HT/EBP-37N/cgr/TTP	417.00	379.95
EBC-6	Mobile bracket	16.00	
EBP-33N	4.8v 650ma nicad battery	63.00	
EBP-34N	4.8v 1200ma nicad battery	82.00	
EBP-35N	7.2v 900ma nicad battery	97.00	
EBP-36N	9.6v 650ma nicad battery	67.00	
EBP-37N	4.8v 700ma nicad battery	34.00	
EDC-8B	Mobile DC power cable w/filter	21.00	
EDC-60	Quick charger	94.00	
EDH-16	Dry cell battery case	10.00	
EJ-28U	CTCSS decoder unit; DJ-191T/TH	42.00	
EME-6	Earphone	11.00	
EME-12	Headset w/earphone/mic/VOX	70.00	
EME-13	Headset w/ear bud/mic/VOX	70.00	
EMS-8Z	Remote speaker/mic	48.00	
EMS-9	Speaker/mic	44.00	
ESC-28	Soft case for EBP-33N	10.00	
ESC-29	Soft case for EBP-37N	10.00	
ESC-30	Soft case for EBP-34N/35N/36N	10.00	
DJ-S41T	340mw 440 FM HT/battery holder	149.00	139.95
EBC-6	Mobile bracket	16.00	
EDH-18	12v to 5.5v DC/DC conv/cig plug	33.00	
EME-6	Earphone	11.00	
EME-13	Headset w/ear bud/mic/VOX	70.00	
EME-15	Earphone/mic w/VOX	55.00	
EMS-9	Speaker/mic	44.00	
DR-M06T	10w 6m FM Xcvr w/TTP mic	338.00	299.95
EJ-19U	Memory expansion unit	28.00	
EJ-20U	Tone squelch unit	41.00	
DR-130T	50w 2m FM Xcvr w/TTP mic	259.00	239.95
DR-130TPKT	50w 2m FM/no mic/9600 w/mod	214.00	199.95
DR-140T	50w 2m FM Xcvr w/TTP mic	288.00	259.95
EJ-20U	Tone squelch unit	41.00	
DR-150T	50w 2m FM Xcvr w/TTP mic/9600	315.00	289.95
CC-150	Cloning cable for DR-150T	14.00	
DR-430T	440 FM Xcvr w/TTP mic	361.00	329.95
EJ-19U	Memory expansion unit	28.00	
EJ-20U	Tone squelch unit	41.00	
EJ-8U	DTMF squelch; DR-590/592/599 ..Δmc	47.00	
DR-600TB	45/35w 2m/440 FM/TTP .....Dm	618.00	539.95
EDC-19	9.75' separation mounting kit	40.00	
EDC-20	16' separation mounting kit	46.00	
EJ-7U	Tone squelch unit	69.00	
DR-610T	50/35w 2m/440 FM Xcvr/TTP mic	674.00	599.95
EBC-8	Front control head bracket	16.00	
EDS-1	Junction box w/ext spkr, mic jacks	56.00	
EDS-2	3 meter extension cable for EDS-1	23.00	
EDS-3	5 meter extension cable for EDS-1	39.00	
EJ-23U	Additional memory unit	35.00	
EJ-24U	Tone decoder unit	85.00	
DR-605T	50w 2m/35w 440 FM Xcvr/TTP	512.00	459.95
EJ-24U	Tone decoder unit	85.00	
EHM-36A	/EMS-10 TTP mic; DR-1200T Δmwfv	54.00	
DX-70T	Compact HF Xcvr w/6m	957.00	859.95
DX-70TH	Compact HF Xcvr/100w 6m/mob bkt	1074.00	969.95
DM-1350	/DM-1350-1 30A 110V ps/35A surge	196.00	179.95
EBC-8	Front control head bracket	16.00	
EBC-9	Mobile bracket	32.00	
EDS-4	Rem mt acc kit w/5' cable, 2 covers	31.00	
EDS-5	Microphone extension cable	28.00	
EDS-6	15' remote cable	53.00	
EDX-1	Manual antenna tuner	299.00	259.95
EDX-2	160-10m 200w automatic ant tuner	344.00	309.95
EMS-14	Desk top microphone	113.00	

ALPHA DELTA (ALP)

R-T	200w 500 MHz lightning protector	$ 32.95
	Extra **arc-plug** cartridge for **R-T**	12.95
R-T/N	200w thru 1 GHz type N protector	39.95
	Extra **arc-plug** cartridge for **R-T/N**	12.95
HV	2kw 500 MHz lightning protector	35.95
	Extra **arc-plug** cartridge for **HV**	15.95
HV/N	2kw thru 1 GHz type N protector	42.95
	Extra **arc-plug** cartridge for **HV/N**	15.95
LT	200w thru 10m 'T' SO-239 protector	22.95
	Extra **arc-plug** cartridge for **LT** or **LT/N**	17.95
Delta-2	500 MHz 2-pos coax switch/protector	49.95
Delta-2/N	1.3 GHz 2-pos type N switch/protector	64.95

ALPHA DELTA - continued

	Reg	Sale
Delta-4 500 MHz 4-pos coax switch/protector	79.95	
Delta-4/N 1.3 GHz 4-pos type N switch/protector	89.95	
D-4 Extra arc-plug; Delta-2/2N/4/4N	9.00	
DX-80 80m 134' complete dipole antenna	49.95	
DX-40 40m 67' complete dipole antenna	39.95	
DX-20 20m 34' complete dipole antenna	39.95	
DX-A 160-80-40m twin sloper antenna	59.95	
DX-B 160-80-40-30m 60' sloper ant	69.95	
DX-CC 80-10m 5-band 82' no trap, no tuner dipole	119.95	
DX-DD 80-40m 82' Delta Dipole antenna	89.95	
DX-EE 40-10m 4-band 40' no trap, no tuner dipole	99.95	
DX-LB 160-80-40m 100' shortened dipole	119.95	
DX-SWL AM broadcast-13m 60' SWL sloper ant	79.95	
DX-SWL-S 90-13m 40' SWL sloper ant .....Δv	59.95	24.95
DX-Ultra AM broadcast-30MHz 80' SWL dipole	119.95	
Delta-C Kit w/ctr ins/2 end ins/static protect	29.95	
SEP Extra arc-plug cart; DX-Ultra/Delta-C	15.95	
Delta-CIN Antenna end insulator .....each	1.00	
VRC Variable response speaker console	249.95	
VRC-2 Ducted port bass reflex speaker	99.95	

Also see **OUTBACKER**

AMECO PUBLICATIONS (AME)

4-01 Code Course Instruction Booklet	$ 1.50	
6-01 Mastering the Morse Code	2.50	
12-01 General Class FCC Test Manual	9.95	
17-01 Extra Class FCC Test Manual	5.95	
23-01 Novice Theory Course	6.95	
26-01 Advanced Class FCC Test Manual	9.95	
27-01 Novice Class FCC Test Manual	5.95	
28-01 Technician Class FCC Test Manual	5.95	
78-01 No Code Technician FCC Test Manual	9.95	
102-01 Amateur Radio Theory Course	7.95	
EN-1 Novice Class Exam	1.95	
PC-12-01 General FCC learning software	24.95	
PC-17-01 Extra FCC learning software	24.95	
PC-26-01 Advanced FCC learning software	24.95	
PC-27-01 Novice FCC learning software	24.95	
PC-28-01 Technician FCC learning software	24.95	
PC-78-01 No Code Tech FCC learning soft	29.95	

CODE COURSES - CASSETTE TAPES

100-T Junior code tape, 0-7½ wpm	$ 5.95	
101-T Senior code tapes, 0-18 wpm	10.95	
103-T Advanced code tape, 8-18 wpm	5.95	
104-T Extra Class code tape, 20 wpm	5.95	
105-QT General Class QSO code course tape	5.95	
106-QT Extra Class QSO code course tape	5.95	
107-PC-2 IBM Morse Code Course, version 2.0	29.95	
NP-1 Novice Code & Theory Course	10.95	

CODE PRACTICE OSCILLATORS & CODE KEYS

OCM-2K Code oscillator & CW monitor kit	$ 19.95	
OCM-2W Wired oscillator & CW monitor	24.95	
K-1 Bakelite type key	9.95	
K-4 Brass type key	14.95	

PREAMPLIFIERS

TPA Tunable preamp & indoor active ant	$ 76.95	69.95
P-9T Power supply for TPA	9.50	
PT-3 2-54 MHz transceiver preamp	124.95	119.95
P-12T Power supply for PT-3	9.95	

DUMMY LOADS & FILTERS

DL-1500 1500w dummy load	$ 59.95	
DL-1500F 1500w dummy load w/fan	99.95	89.95
HP-75T 75 ohm high-pass filter	12.95	
HP-300T 300 ohm high-pass filter	12.95	

AMERITRON (AMR)

AL-80B 1kw PEP out linear (3-500Z)	1195.00	1069
AL-82 1.5kw PEP out linear (2 3-500Zs)	2095.00	1769
AL-800 1250w PEP out linear (3CX800A7)	1595.00	1429
AL-800H 1.5kw PEP out linear (2 3CX800A7)	2295.00	2059
AL-811 600w PEP out linear (3 811As)	649.00	589.95
AL-811H 800w PEP out linear (4 811As)	799.00	719.95
AL-1200 1.5kw PEP out linear (3CX-1200A7)	2195.00	1849
AL-1500 Linear amplifier (8877)	2695.00	2269
ALS-500M 600w PEP out solid state mob amp	799.00	679.95
ALS-600 700w PEP out solid state amp w/ps	1299.00	1099
ARB-700 Amplifier relay buffer	29.95	

AMERITRON - continued

	Reg	Sale
ATR-15 1.5kw antenna tuner	399.00	349.95
ICP-120 120v inrush protector	79.00	
ICP-240 240v inrush protector	79.00	
QSK-5 Stand alone T/R switch	349.00	299.95
QSK-5PC PC board kit; T/R switch	249.00	209.95
CF-5 Cooling fan for QSK-5	39.95	
RCS-4 4-pos wireless remote coax switch	139.00	129.95
RCS-8V 160-2m 5-pos remote coax switch	149.00	139.95

Note: RCS-8V requires 8-wire control cable.

Antenna Specialists (ASP)

VHF/UHF ANTENNAS

AP-143 2m on glass cellular look-alike ant	$ 65.00	59.95
APR151.3 2m 3db on glass antenna	49.25	44.95
AP-453 440 on glass cell look-alike ant ..Dmfv	65.00	29.95
KAV-382 On glass replacement mtg kit	9.95	

HOLE PLUGS

ASC-34 For 1 5/16" hole .....Dw	$ 4.75	49¢
ASC-37 For ⅜" hole .....Dmf	2.25	1.95
ASC-39 For ⅞" hole .....Df	2.25	29¢

Antenna Supermarket (ANT)

Eavesdropper* 60-11m trap dipole SWL ant	$ 79.95	
*Specify **SO-239** or **twin**-lead		
SWL Sloper 120-11m SWL antenna	79.95	

ARTSCI (ART)

Amateur Handbook	$ 14.95	
Lost Users Manuals	19.95	
Riding the Airwaves with Alpha & Zulu	14.95	
US Repeater Mapbook 96/97 edition	9.95	
US Repeater CD-ROM info+U.S. hams/96/97	29.95	

ASTATIC (AST)

10DA-L Dynamic mic head (no stand or cable)	$ 69.99	49.95
D-104-L Crystal mic head (no stand or cable)	42.99	39.95
T-UG9 Amplified desk stand	52.00	49.95
T-UG9-D104 Amp mic, 6-wire w/stand	99.99	79.95
Night Eagle Brass/black crystal desk mic	129.99	99.95
MC-320 Crystal mic cartridge for D-104	19.99	
MC-321 Ceramic mic cartridge for D-104	19.99	

ASTRON (ASR)

RS-4L 3A ps, 4A surge, w/cig lighter socket	$ 57.95	49.95
RS-7A 5A power supply, 7A surge	68.95	59.95
RS-10A 7.5A power supply, 10A surge	85.95	69.95
RS-12A 9A power supply, 12A surge	99.95	79.95
RS-12S 9A ps, 12A surge, w/speaker	112.95	89.95
RS-20A 16A power supply, 20A surge	121.95	99.95
RS-35A 25A power supply, 35A surge	197.95	149.95
RS-35A/220V 220v 25A ps, 35A surge	217.75	169.95
RS-50A 37A power supply, 50A surge	285.95	219.95
RS-70A 57A power supply, 70A surge	339.95	259.95
RS-20M 16A ps w/meters, 20A surge	144.95	119.95
RS-35M 25A ps w/meters, 35A surge	204.95	169.95
RS-50M 37A ps w/meters, 50A surge	314.95	239.95
RS-70M 57A ps w/meters, 70A surge	372.95	289.95
VS-20ML Variable 16A ps/meters, 20A surge	170.95	139.95
VS-35M Variable 25A ps/meters, 35A surge	238.95	189.95
VS-50M Variable 37A ps/meters, 50A surge	330.95	259.95
RM-35M 25A rack mt ps/meters, 35A surge	318.95	249.95
RM-50M 37A rack mt ps/meters, 50A surge	354.95	279.95
RM-60M 50A rack mt ps/meters, 55A surge	467.95	359.95
SS-25 20A switching ps, 25A surge	161.95	129.95
SS-30 25A switching ps, 30A surge	186.95	149.95
12/115 200w solid state 12vdc-115vac inverter	86.95	64.95
2412 9A 22-32vdc to 13.8vdc converter	73.95	59.95
2412-20 16A 22-32vdc to 13.8vdc converter	103.95	79.95

AZDEN (AZD)

PCS-7500H 50w 6m FM Xcvr w/TTP mic		389.95
PCS-7800H 50w 10m FM Xcvr w/TTP mic		389.95
PCS-7000H 50w 2m FM Xcvr w/TTP mic		339.95
PCS-7200 25w 220 FM Xcvr w/TTP mic		409.95
PCS-7300H 35w 440 FM Xcvr w/TTP mic		439.95
PCS-9600D 35w 440 FM Xcvr/9600 baud		649.95
TS-32P Tone decoder		55.00
AZ-11 5w 10m FM HT/batt/cgr/TTP		379.95

AZDEN - continued

	Reg	Sale
AZ-21A 5w 2m FM HT/batt/cgr/TTP		299.95
AZ-61 5w 6m FM HT/batt/cgr/TTP		379.95
AD-16 DC power cord for HT		9.95
ARD-6M 6m HT gain antenna		34.95
ARD-10M 10m HT gain antenna		39.95
BP-11A Extra 5w battery		59.95
LC-16 Soft case		19.95
SDX-514W Speaker/mic		49.95
DM-10 20 ohm headphones for HF radio		49.95
HS-03 Boom mic/headphones for HF Xcvr ...†		49.95
PTT-01 Switch for boom mic/headphones		39.95
PTT-02 VOX for boom mic/headphones		49.95

B & K (B&K)

AUDIO TEST INSTRUMENT

2005A RF generator	$275.00	234.95

CAPACITANCE METERS

810B Capacitance meter	$ 99.00	89.95
815 Tester (cap/res/Hfe/diode/batt)	99.00	84.95
820 .1pF to 1F capacitance meter	279.00	229.95
830 200 pF to 200mF autoranging meter	339.00	289.95
875A Digital LCR meter	199.00	169.95
878 Universal hand-held LCR bridge	275.00	219.95

COUNTERS

1803C 100 MHz frequency counter	$209.00	169.95
1806 100 MHz multi-function counter .....D	249.00	214.95
1807 1.3GHz 1 ppm frequency counter	299.00	259.95
1823 175 MHz universal counter	399.00	339.95
1856A 2.4 GHz 1 ppm multi-function ctr	499.00	399.95

CRT RESTORER/ANALYZERS

480 CRT restorer/analyzer	$739.00	629.95
490 Tri Dynamic restorer/analyzer	1049.00	899.95

DIGITAL PRODUCTS

DP-21 Digital logic probe	$ 34.00	29.95
DP-51 Digital probe .....Dm	95.00	49.95

EPROM PROGRAMMERS

840 EPROM programmer	$229.00	199.95
841 4-socket EPROM programmer	299.00	259.95
842 Universal programmer, PC card interface	849.00	729.95
843 Universal prog, parallel port interface	995.00	849.95

GENERATORS

3001 Audio generator	$ 79.00	66.95
3026 5 MHz sweep/function gen w/dig disp D	629.00	499.95
4010 2 MHz function generator	229.00	194.95
4011 5 MHz function generator w/counter	284.00	239.95
4017 10 MHz func gen w/counter/sweep	369.00	314.95
4040 20 MHz func gen/ctr/sweep/AM/FM	499.00	424.95

INSULATION TESTERS

305 Ins tester, 1000 megohms, 500vdc applied	$129.00	109.95
306 Ins tester, 100 megohms, 500vdc applied	129.00	109.95
307 Multi-range analog insulation tester	189.00	159.95
308 Multi-range digital insulation tester	259.00	219.95

HIGH VOLTAGE PROBE

HV-44 Direct-reading 40kV DC probe	$109.00	89.95

ISOLATION TRANSFORMER

TR-110 Isolation transformer	$219.00	189.95

MULTIMETERS (ANALOG)

114A 20,000 ohms/volt analog multimeter	$ 42.00	39.95
117 Pocket size analog multitester	13.00	
214A 30,000 ohms/volt analog multimeter .D	55.00	46.95
300 Insulation tester	129.00	109.95

MULTIMETERS (DIGITAL)

320 600A AC clamp meter	$ 79.00	69.95
330 750A AC multi-function clamp meter	89.00	79.95
340A 300A multi-function clamp meter	109.00	89.95
350A 1000A multi-function clamp meter	149.00	129.95
366 600A AC/DC multi-func clamp meter ...D	179.00	154.95
367 2000A AC/DC clamp meter	169.00	149.95
369 700A AC/DC true RMS clamp meter	199.00	169.95
388A Test Bench DMM, 0.5% accuracy	119.00	99.95
389 Test Bench DMM, 0.25% accuracy	139.00	109.95
390 Test Bench DMM, 0.1% accuracy	159.00	134.95
391 Test Bench DMM, 0.05% accuracy	179.00	149.95

B & K - continued

	Reg	Sale
2405 Mini Pro DMM	27.00	
2406 Mini Pro DMM w/temperature	49.00	44.95
2407 Min Pro autoranging DMM w/bargraph	55.00	49.95
2700 Credit-card size bargraph DMM	34.00	29.95
2703A Tool kit DMM, basic model, 0.5%	39.00	34.95
2704A Tool kit DMM w/cap/transistor/diode	59.00	49.95
2706 Tool kit DMM, 2704A plus temperature	79.00	69.95
2707 Tool kit DMM, 2704A plus logic & freq	89.00	76.95
2831A Digital bench multimeter	299.00	249.95
2832 3½-dig 0.5% lab multimeter	219.00	189.95
2833 4½-dig 0.05% true RMS multimeter	400.00	339.95
2835 3¾-dig 0.5% bench type LCD DMM	270.00	229.95
2860A 3½-dig 0.5% ruggedized DMM	99.00	84.95
2870 Survivor DMM w/bargraph, true RMS	149.00	129.95
3000 Autobench DMM	270.00	229.95
TLA-20 Autobench test lead set	269.00	249.95

OSCILLOSCOPES

1422 20 MHz mini scope ....D	1395.00	1099
1541C 40 MHz 6" dual trace scope	799.00	679.95
2000 Autobench oscilloscope	795.00	674.95
2120 20 MHz dual trace oscilloscope	549.00	449.95
2125 20 MHz dual time base oscilloscope	646.00	519.95
2160A 60 MHz dual trace delayed sweep	1099.00	939.95
2190A 100 MHz three trace delayed sweep	1599.00	1359
2260 60 MHz analog scope/cursors/readouts	1399.00	1169
2522A Digital storage oscilloscope	1099.00	929.95
2560 60MHz DSO, cursors/readouts/RS232	2395.00	2029

POWER SUPPLIES

1604 Portable isolated AC supply ....Dm	$114.00	79.95
1604A Portable isolated AC supply	114.00	99.95
1646 0-16V, 0-10A power supply ....Dm	499.00	299.95
1651 Power supply; (2) 0-24vdc, .5A; 5V, 4A	429.00	359.95
1653 0-150V, 2A isolated AC ps	319.00	279.95
1655 0-150V, 3A isolated AC ps/leak tester	529.00	449.95
1670 Triple output DC power supply	199.00	169.95
1680 Fixed 6A 13.8vdc power supply	50.00	44.95
1682 Fixed 15A 13.8vdc power supply	99.00	89.95
1686 High current DC power supply	199.00	169.95
1688 3-14VDC, 25A non. power supply	299.00	259.95
1705 0-30VDC, 0-1A LED readout ps	299.00	259.95
1710 0-30VDC, 0-1A power supply	229.00	194.95
1711 0-60VDC, 0-2A power supply	309.00	264.95
1715 0-60VDC, 0-2A LED readout ps	379.00	324.95
1730 0-30VDC, 0-3A power supply	315.00	269.95
1735 0-30VDC, 0-3A LED readout ps	380.00	329.95
1740 0-60VDC, 0-4A power supply	499.00	419.95
1743 0-35VDC, 0-6A LED readout ps	499.00	419.95
1746 0-16VDC, 0-10A power supply	499.00	419.95
1760 (2) 0-30V, 2A; (1) 4-6.5V, 5A LED ps	649.00	549.95

SEMICONDUCTOR TESTERS

510 Portable transistor tester	$239.00	199.95
520B Industrial transistor tester	399.00	339.95
541 Component comparator ....Dm	449.00	269.95
545 Circuit analyzer analog signature	2950.00	2499
560A Programmable PC board tester	2995.00	2549
AK-560A Software package for 560A	495.00	399.95

SPECTRUM ANALYZERS

2615 500 MHz spectrum analyzer	1795.00	1529
2620 500 MHz spec analyzer w/tracking gen	2195.00	1869
2625 1.05GHz spec analyzer w/AM/FM demod	2595.00	2199
2630 1.05GHz spec an w/demod, tracking gen	3395.00	2889

TELEPHONE TEST INSTRUMENTS

1045B Telephone product tester	$599.00	499.95
1050 Telephone product analyzer	2260.00	1899

VIDEO TEST INSTRUMENTS

1211D Portable color generator	$235.00	199.95
1249B NTSC generator w/RGB	569.00	489.95

CHRIS, N9LBS
Sales– Milwaukee Store

We're the Largest Ham Dealer with a FULL SERVICE Department!

1-800-558-0411

B & K - continued

	Reg	Sale
1251 NTSC signal generator	1195.00	999.95
1260 Deluxe NTSC signal generator	1995.00	1699
1280 Computer monitor video generator	429.00	369.95

ACCESSORIES

CP-3 AC/DC clamp meter	$ 86.00	79.95
PR-28 HV multimeter probe w/std dual banana	59.00	
PR-32 RF detector/demod scope probe w/BNC	59.00	
PR-37G Gray dlx 10:1 direct BNC probe ....Dm	54.50	34.95
PR-37R Red dlx 10:1 direct BNC probe ....Dm	54.50	34.95

Other accs available on special order. B & K stocked only at Milwaukee. Call Ron Glisch for B & K.

B & W COAX SWITCHES (B&W)

CSR-5G 5-position, side connectors	$ 51.50	49.95
CS-6G 6-position, for desk/wall mounting	51.50	49.95

Note: Above switches provide grounding of unused terminals, & are supplied w/face plates & knobs.

LOW-PASS FILTER

FL-10/1500 1.5-30 MHz, 1kw, 52 ohms	$ 75.00	

ANTENNAS

AP-10 57" portable 40/20/15/10/6/2m ant	$ 69.95	
AT-55 40/20/15/10m 55' trap antenna	87.95	82.95
AT-110 80/40/20/15/10m 110' trap antenna	99.50	94.95
AT-110K As above, but kit	84.50	79.95
AS-160 160/80/40/20m 137' trap dipole	164.50	154.95
AS-80 80/40/20m 78' trap dipole	127.50	119.95
AS-40 40/20/15/10m 40' trap dipole	164.50	154.95
AS-20 20/15/10m 23' trap dipole	127.50	119.95
AXS-160 160/30m 96' trap dipole	99.50	94.95
AXS-80 80/40/15m 72' trap dipole	127.50	119.95
AC-3.5-30 80-10m 8-band 90' dipole	198.00	179.95
AC-1.8-30 Continuous 1.8-30 MHz antenna	185.00	169.95
BWD-1.8-30 1.8-30 MHz 90' folded dipole	198.00	179.95

BELDEN (BEL)

52 OHM COAXIAL CABLE

8216 RG-174 (sub-miniature) ....per ft.			26¢
8216	100 ft. Roll	37.29	24.95
8216	500 ft. Roll	129.87	89.95
8216	1000 ft. Roll	259.74	169.95
9201 RG-58 (solid center) ....per ft.			20¢
9201	100 ft. Roll	29.74	18.95
9201	500 ft. Roll	109.89	79.95
9201	1000 ft. Roll	216.45	139.95
8240 RG-58U (solid center) ....per ft.			26¢
8240	100 ft. Roll	38.20	24.95
8240	500 ft. Roll	131.00	89.95
8240	1000 ft. Roll	262.00	169.95
8259 RG-58AU (stranded center) ....per ft.			29¢
8259	100 ft. Roll	43.00	26.95
8259	500 ft. Roll	137.00	89.95
8259	1000 ft. Roll	276.00	169.95
8219 RG-58AU (stranded, foam) ....per ft.			33¢
8219	100 ft. Roll	57.25	29.95
8219	500 ft. Roll	155.00	99.95
8219	1000 ft. Roll	387.50	189.95
8262 RG-58C (non-contaminating) ....per ft.			36¢
8262	100 ft. cut		32.95
8262	500 ft. Roll	173.00	119.95
8262	1000 ft. Roll	346.00	219.95
9258 RG-8X (stranded, foam) ....per ft.			39¢
9258	100 ft. Roll	81.25	34.95
9258	500 ft. Roll	217.56	109.95
9258	1000 ft. Roll	490.00	199.95
8237 RG-8U ....per ft.			64¢
8237	100 ft. Roll	102.00	59.95
8237	500 ft. Roll	390.00	249.95
8214 RG-8U (foam) ....per ft.			59¢
8214	100 ft. Roll	101.00	54.95
8214	500 ft. Roll	452.00	249.95
8214	1000 ft. Roll	898.00	479.95
9913 RG-8U (low loss)	100 ft. Roll	113.00	59.95
9913	250 ft. Roll	244.00	129.95
9913	500 ft. Roll	486.00	229.95

BELDEN - continued

9913F RG-8U (low loss, flexible) ....per ft.			87¢
9913F	100 ft. Roll	134.00	79.95
9913F	250 ft. Roll	289.00	149.95
9913F	500 ft. Roll	575.00	279.95
9251 RG-8A (non-contaminating) ....per ft.			87¢
9251	100 ft. Roll	132.09	79.95
9251	500 ft. Roll	492.84	299.95
8267 RG-213 (non-contaminating) ....per ft.			87¢
8267	100 ft. cut		79.95
8267	500 ft. Roll	597.18	349.95
8242 RG-9U (double shielded) ....per ft.,m			4.95
8242	100 ft. Roll,m	715.00	349.95

75 OHM COAXIAL CABLE

8241 RG-59U (73 ohm, solid center) ....per ft.			28¢
8241	100 ft. Roll	44.00	24.95
8241	500 ft. Roll	123.00	79.95
8241	1000 ft. Roll	246.00	149.95
8238 RG-11 (75 ohm, stranded center) per ft.			79¢
8238	100 ft. Roll	124.32	69.95
8238	500 ft. Roll	470.64	279.95
8213 RG-11 (75 ohm, solid, foam) ....per ft.			69¢
8213	100 ft. cut		59.95
8213	500 ft. Roll	360.00	239.95

ROTOR CABLE

8484 4-wire; 4-20 ga; U-105 ....per ft.			28¢
8484	100 ft. Roll	48.00	24.95
8484	500 ft. Roll	185.00	99.95
8484	1000 ft. Roll	370.00	189.95
8448 8-wire; 2-18, 6-22 ga; CD-45/HAM-IV per ft.			29¢
8448	100 ft. Roll	103.75	24.95
8448	500 ft. Roll	412.50	119.95
8448	1000 ft. Roll	820.00	219.95
9405 8-wire; 2-16, 6-18 ga; AR-40/HAM-IV/T²X per ft.			59¢
9405	100 ft. cut		54.95
9405	500 ft. Roll	585.00	249.95
9405	1000 ft. Roll	1167.50	489.95

ANTENNA WIRE

8000 No. 14 stranded ant wire ....per ft.			21¢
8000	100 ft. Roll	30.50	17.95
8000	1000 ft. Roll	275.00	159.95

No. 8 ALUMINUM GROUND WIRE

8018 Multiples of 50 ft. ....each		$ 19.00	12.95
8018	500 ft. Roll	150.00	99.95

Note: All above roll pricing is for rolls as shown only; all other lengths, even if more than roll length shown or a multiple of roll length shown, are sold at the per ft. price.

FOAM COAX w/PL-259s ON BOTH ENDS

9349 3' RG-58AU foam	$ 19.32	14.95
9350 15' RG-58AU foam	21.63	16.95
9347 20' RG-58AU foam, 1 PL-259 ....Dv	19.32	5.95
9352 50' RG-58AU foam	32.13	24.95
9354 50' RG-8U foam	60.90	46.95
9355 75' RG-8U foam	84.00	64.95
9356 100' RG-8U foam	101.85	79.95

BELMERIT (BLM)

DM-10S 3½-digit dig multimeter w/case ...Dmv	$ 24.95	14.95

Flat-Rate SHIPPING INFORMATION

AMOUNT OF ORDER	UPS GROUND SHIPPING HANDLING & INSURANCE
Up to $100.00	$4.00
$100.01 to $500.00	$8.00
$500.01 to $1499.99	$12.00
$1500.00 & UP	$16.00

• Shipping/Handling/Insurance Charges are based on the Order Total at the time of the initial shipment. Changes made to a partially shipped order will not affect the shipping charges • Order amount is Pre-Coupon & Pre-Tax • COD fees Not Included, add $6.50 per carton • Includes adequate insurance • Backorders shipped prepaid at AES® expense • Other UPS shipping methods are charged at Regular Rates with No Credit for UPS Ground rate • Does Not Apply to Truck or DROP-SHIPMENTS

BELMERIT - continued

	Reg	Sale
DM-3000 Wide range dig multimeter .....Dwv	54.95	29.95
DM-3050 Wide range dig multimtr/freq test Dmwv	59.95	36.95

BENCHER (BEN)

BY-1 Iambic keyer paddle w/black base	$ 79.95	74.95
BY-2 Iambic keyer paddle w/chrome base	99.95	94.95
BY-3 Iambic keyer paddle, gold plated Δmwf	264.95	199.95
BY-4 Iambic paddle/blk base/gold components	159.95	139.95
ST-1 Single lever keyer paddle, black base	79.95	74.95
ST-2 Single lever kyr paddle, chrome base	99.95	94.95
ST-3 Single lever kyr paddle, gold plated Δmf	264.95	199.95
ST-4 Sgl lever paddle/blk base/gold comp Δmwfv	159.95	119.95
RJ-1 Dlx hand key w/navy knob/black base	74.95	
RJ-2 Dlx hand key w/navy knob/chrome base	84.95	
ZA-1A 3.5-30 MHz 1:1 balun	37.95	
HWK Balun hardware kit for 2" boom	9.49	
YA-1 1kw low pass filter	59.95	

BIRD (BIR)

43 Thruline Directional wattmeter, SO-239s	$250.00	
4300-400 Peak reading conversion kit	121.00	
43P Peak reading directional meter, SO-239s	377.00	
4431 Wattmeter, variable RF tap, SO-239s	442.00	
Elements (Table 1) **50H-1000H** .....each	84.00	
Elements (Table 1) **2500H, 5000H** .....each	120.00	
Elements (Table 1) 25-1000 MHz .....each	68.00	
Low-power elements (Table 2) .....each	90.00	

TABLE 1 – Standard Elements

Frequency Bands (MHz)

Power Range	2-30	25-60	50-125	100-250	200-500	400 1000
5 watts	—	5A	5B	5C	5D	5E
10 watts	—	10A	10B	10C	10D	10E
25 watts	—	25A	25B	25C	25D	25E
50 watts	50H	50A	50B	50C	50D	50E
100 watts	100H	100A	100B	100C	100D	100E
250 watts	250H	250A	250B	250C	250D	250E
500 watts	500H	500A	500B	500C	500D	500E
1000 watts	1000H	1000A	1000B	1000C	1000D	1000E
2500 watts	2500H					
5000 watts	5000H					

TABLE 2 – Low-Power Elements

1 watt	Cat. No.	2.5 watts	Cat. No.
25-30 MHz	025-1	25-30 MHz	025-2
30-35 MHz	030-1	30-40 MHz	030-2
35-40 MHz	035-1	40-50 MHz	040-2
40-50 MHz	040-1	50-60 MHz	050-2
50-60 MHz	050-1	60-80 MHz	060-2
60-80 MHz	060-1	80-95 MHz	080-2
80-95 MHz	080-1	95-150 MHz	095-2
95-125 MHz	095-1	150-250 MHz	150-2
110-160 MHz	110-1	200-300 MHz	200-2
150-250 MHz	150-1	250-450 MHz	250-2
200-300 MHz	200-1	400-850 MHz	400-2
275-450 MHz	275-1	800-1000 MHz	801-2
425-850 MHz	425-1		
800-1000 MHz	801-1		

800-2 2.5w 800-950MHz element .....Dmw	86.00	59.95
CC-1 Carrying case	45.00	
EC-1 Element case	35.00	
80F 5w dummy load w/type N female .....Df	72.00	49.95
8080 25w dummy load w/type N male QC	107.00	
8085 50w dummy load w/type N male QC	153.00	
4273 1.5-35 MHz variable RF sig sampler*	129.00	
4273-100 For Bird equipment installation	140.00	
4275 20-1000 MHz variable RF sampler*	124.00	
*2 QC connectors required - not included		
4275-100 For Bird equipment installation	140.00	
4304A 25-1000 MHz 500w wattmeter	494.00	

QUICK CHANGE CONNECTORS (QC)

4240-050 UHF female (SO-239) .....each	$ 8.00	
4240-179 UHF male (PL-259) .....each	45.00	
4240-062 Type N female .....each	8.00	
4240-125 BNC female .....each	19.00	
4240-132 BNC male .....each,Δmwf	54.00	19.95

Other Bird items available on special order

BUCKMASTER (BUC)

HamCall CD-ROM ham listings; IBM/Mac	$ 50.00	

BUTTERNUT (BUT)

	Reg	Sale
HF-6VX 80/40/30/20/15/10m 26' vert ant	$247.00	199.95
HF-9VX 80/40/30/20/17/15/12/10/6m vert	306.00	249.95
A17-12 17 & 12m kit for HF-6VX	54.00	49.95
CPK Counterpoise kit	61.00	54.95
MPS Mounting post sleeve	8.00	
RMK-II Roof mounting kit w/radials	86.00	76.95
STR-II Radial kit only	54.00	49.95
TBR-160S 160m resonator for HF-6VX	89.00	79.95
HF-2V 80/40m 32' vertical	231.00	189.95
30-MRK 30m resonator for HF-2V	54.00	49.95
TBR-160S 160m resonator	89.00	79.95
HF-5B 2 el 20/17/15/12/10m butterfly beam	376.00	299.95

CES (CES)

410 Personal Patch interconnect .....Dmwf	$250.00	169.95
4700VP Telephone interconnect	292.00	199.95
SDI-50 Dlx splx/dplx autopatch/rptr controller	760.00	399.95

CQ (CQX)

1997 Amateur Radio Calendar	$ 9.95	
1997 Radio Classics Calendar	9.95	
Amateur Radio Almanac	19.95	
Building and Using Baluns and Ununs	19.95	
Buyers Guide	5.95	
Contest Video Getting Started in Contesting	19.95	
DXing Video Getting Started in DXing	19.95	
Ham Sat Video Getting Started Amateur Satellites	19.95	
Ham Video Getting Started in Ham Radio	19.95	
Lew McCoy on Antennas	15.95	
Packet Radio Operator's Manual	15.95	
Packet Video Getting Started in Packet Radio	19.95	
Quad Antenna Book	15.95	
Shortwave Propagation Handbook	19.95	
Vertical Antenna Handbook	9.95	
VHF How To Book	15.95	
VHF Video Getting Started in VHF	19.95	
W6SAI HF Antenna Handbook	19.95	

CAMBRIDGE (CAM)

The Art of Electronics (book)	$ 59.95	

CASTLE RIDGE (CRO)

SOLID BASE COPPERWELD ANTENNA WIRE

AN-122 100 feet No. 12	$ 24.95	
AN-123 150 feet No. 12	29.95	
AN-124 250 feet No. 12	49.95	
AN-126 500 feet No. 12	84.95	79.95
AN-128 1000 feet No. 12	154.95	129.95
AN-142 100 feet No. 14	19.95	
AN-143 150 feet No. 14	24.95	
AN-144 250 feet No. 14	29.95	
AN-146 500 feet No. 14	54.95	
AN-148 1000 feet No. 14	104.95	89.95
AN-181 250 feet No. 18	14.95	
AN-182 500 feet No. 18	24.95	

CENTAUR (CEN)

CP-1 Cricket Pulser Station tuning accessory	$ 67.00	
B11W10-50 1:1 3kw PEP balun for dipole	49.95	
B11Y10-50 1:1 3kw PEP balun for yagi	49.95	
B41Y10-50 4:1 3kw PEP balun for yagi	64.95	
B41LW10-50 4:1 ladder line to coax balun	64.95	

CIRCUIT WORKS (CIR)

Conductive Pen/CW2200STP	$ 11.95	

CLOCKS

AEA **World Clock** .....Dmwv	$ 25.00	9.95
BMI **972A** 12" 12-hour wall clock	28.00	
BMI **972AD** 14" 12/24-hour wall clock	32.00	
BMI **973A** 12" 24-hour wall clock	49.95	
MFJ **105B** 24-hour quartz wall clock	19.95	
MFJ **107B** 24-hour digital clock	9.95	
MFJ **108B** 24/12-hour dual disp digital clock	19.95	
MFJ **112** Deluxe world map clock	24.95	
MFJ **114** Large LED 24-hour clock	39.95	
MFJ **116** 24/12-hr LED clock/10 minute timer	14.95	

COAX SEAL (UNV)

104 ½" x 60" coax seal	$ 2.69	

COMET (CMT)

MOBILE ANTENNAS

B-10 2m/440 2.15db 12" cell look-alike ant	$ 39.95	
B-10NMO 2m/440 2.15db 12" cell look-alike NMO	39.95	
B-20 2m/440 2.15/5db 30" cell look-alike ant	56.95	
B-20NMO 2m/440 2.15db/5db 30" cell look NMO	56.95	
CA-2X4SR 2m/440 3.8/6.2db 40" mob ant	64.95	
CA-220MR 220 4.2db 3' 3" fold-over ant	49.95	
CA-HV 40/15/10/6/2m 5' 10" mobile ant	139.95	129.95
L-14 20m loading coil for CA-HV	36.95	
CHL-28J 2m/440 3/5.5db 36" mobile ant	35.95	
CHL-28JNMO 2m/440 3/5.5db 36" NMO ant	35.95	
CHL-62S 2m/440 3.5/6db 42" mobile ant	49.95	
CHL-62SNMO 2m/440 3.5/6db 42" NMO ant	49.95	
CHL-350 10/6m 0/2.15db fold-over 7' ant	79.95	
CMW-202N 900 MHz 5.1db 18" type N ...Dwfv	42.95	39.95
CX-224 2m/220/440 2.15/3.2/5.5db 42" mobile	79.95	
CX-224NMO 2m/220/440 2.15/3.2/5.5db 42" NMO	79.95	
CX-801 2m/440/1.2 3/6.8/9db 39" N mob Dm	89.95	59.95
FL-7HA 40m 40" mobile antenna .....Dmwfv	82.95	69.95
FL-14HA 20m 37" mobile antenna .....Dmwfv	82.95	69.95
FL-28HA 10m 33" mobile antenna .....Dwfv	82.95	69.95
FL-50HA 6m 33" mobile antenna .....Dfv	82.95	69.95
FS-74B 440/1.2 black 5.1/7.2db 22" N .Dmwf	79.95	69.95
FS-92B 2m/440/1.2 2.1/4.1/6.8 23" N Dmwv	82.95	69.95
HA-4S 40/15/12/10m 4' 5" mobile ant	199.95	179.95
L-14HS 20m loading coil for HA-4S	39.95	
HA-028 10m 33" ¼ wave mobile ant ...Dmwfv	82.95	69.95
HA-035 80m 45" mobile antenna	82.95	
HA-050 6m 33" ¼ wave mobile antenna	82.95	
HP-32 2m/440 3/5.5db 34" 350/250w ant	89.95	
QE-07 40m 50" mobile antenna	82.95	
QE-14 20m 49" mobile antenna	82.95	
QE-21 15m 49" mobile antenna	82.95	
QE-28 10m 46" mobile antenna	82.95	
OP-07 40m optional element for QE ant	42.95	
OP-14 20m optional element for QE ant	42.95	
OP-21 15m optional element for QE ant	42.95	
OP-28 10m optional element for QE ant	42.95	
R-2000 900MHz 5.1db 19" type N mob ant	42.95	
SBB-2 2m/440 2.15/3.8db 18" black mobile	39.95	
SBB-2NMO 2m/440 2.15/3.8db 18" blk NMO	39.95	
SBB-5 2m/440 3/5.5db 38" black mobile ant	59.95	
SBB-5NMO 2m/440 3/5.5db 38" black NMO	59.95	
SB-7 2m/440 4.5/7.2db 4' 7" mobile ..Dmwfv	85.95	69.95
SBB-7 2m/440 4.5/7.2db 4' 7" black mob ant	82.95	
SBB-7NMO 2m/440 4.5/7.2db 4' 7" blk NMO	82.95	
SB-14 6m/2m/440 43" chrome mobile ant	69.95	
SB-15 6m/2m/440 2.15/4.5/7.2db 5' chr mob	99.95	
SB-25 2m 4.1db 4' 8" mobile ant .....Dmwfcv	49.95	
SBB-25 2m 4.1db black mobile antenna	49.95	
SB-25NMO 2m 4.1db 4' 8" NMO mob Dmwfcv	49.95	
SBB-25NMO 2m 4.1db black NMO mob ant	49.95	
SB-44 440 5db 29" mobile antenna	54.95	
SB-83 2m/440/cell 3/6/8.4db 35" type N ant	78.95	
SB-94 2m/440/1.2 2.15/5.1/7.2db 24" N ant	75.95	
SB-97 2m/440/1.2 3/6.8/9.6db 39" type N	89.95	
SB-123 1.2GHz 7.2db 24" type N mobile ant	54.95	
SB-214W 2m/220 3' 1.7/3.4db mob ant	62.95	
SF-245 2.4 GHz 7db 18" fg type N ant	61.95	
Z-750 2m/440 2.1/5.5db 39" theft resistant	62.95	
Z-780 2m/440 4.5/7.2db 5' theft resistant	82.95	

MOBILE MOUNTS, ETC

3D4M Mobile mt, 13' coax w/UHF connectors	$ 24.95	
3D4N Mobile mt, 13' coax w/type N	28.95	
3D5M Mobile mt, 16.5' coax w/UHF connectors	27.95	
5D4N Roof mount, 13' coax w/type N	31.95	
AD-10N N-NMO mount adapter	17.95	
AD-15M UHF-NMO mount adapter	17.95	
BMG-BB Med duty blk mag mt, BNC/BNC .....Df	39.95	19.95
CA-MS1 Mag mt only, no coax; add 3D4M, etc	26.95	
CG-4M RS-2 gutter mount w/13.5' coax	29.95	

MasterCard VISA DISCOVER NOVUS American Express Cards

COMET - continued

	Reg	Sale
CK-3M Dlx 2-step 10' cable w/UHF connectors	33.95	
CK-3M5 Dlx 2-step 16.5' cable w/UHF connects	39.95	
CK-5N Dlx cable assembly w/type N	47.95	
CM-5M Hvy duty mag mt, coax, max 4' ant	39.95	
CQ-5M Dlx black QD trunk lip mt w/17' coax	66.95	
CR-5M Std coax assy, 16.5' coax, UHF conn	19.95	
CT-5M Trunk lip mount w/17' coax	39.95	
GR-5M Dlx tnk lip mt w/ coax; matches SB	67.95	
GR-5N Dlx N tnk lip mt w/ coax; matches SB	69.95	
MG-SRB Med duty mag mt w/UHF/BNC ..Dmwf	38.95	19.95
MG-SRM Med duty mag mt w/UHF conn .....Dwv	36.95	19.95
MS-3FVNN Std duty mag mount w/type N	49.95	
MS-5LXMM Dlx mag mt, 2-step cable/UHF mt	57.95	
MS-5LXNN Hvy duty magnet mt/type N .....Dw	61.95	44.95
RS-2 Small gutter mount	22.95	
RS-6 Pipe clamp mount	29.95	
RS-9 Trunk lip mount, no coax	13.95	
RS-20 Gtr mt; small/med ants, no coax .....Dfv	29.95	19.95
RS-21 Adj 360 degree hatch/tnk mt, no coax	34.95	
RS-80 Adjustable gutter mt, no coax .....Df	32.95	19.95
RS-81 Adj trunk/hatch mount, no coax	34.95	
RS-500 Mini heavy duty gutter mount	29.95	
RS-520 Mini heavy duty trunk/hatch mount	29.95	
RS-820 Low profile trunk lip mount, no coax	45.95	
RS-850 Lug rack/to 1.75" pipe mt, no coax	42.95	
TS-1M Trunk lip mt w coax .....Dwfv	45.95	29.95
WS-1M Window clip mt w/UHF connectors	64.95	

BASE STATION ANTENNAS

	Reg	Sale
CA-62DB 52-54MHz 6.5db 21.75' base ant	$164.95	154.95
CA-350DB 10/6m 2.15/6.5db 22' 7" ant Dwfv	349.95	269.95
CA-712EF 440 9db 10' 5" base antenna	139.95	129.95
CA-1243E 440/1.2GHz 6/8.4db 3' 4" N Dmwfv	94.95	69.95
CA-1243Z 440/1.2GHz 9.4/12.8db 7' N Dmwf	161.95	109.95
CA-ABC21 2m 3.4db 4' 7" base antenna	59.95	
CA-ABC22A 2m 6,5db 9' 5" base/rptr ant	79.95	
CA-ABC23 2m 7.8 db 13' 4" base/rptr ant	135.95	124.95
CA-F22GF 136-175 6db 8' 10" tunable .....T	169.95	159.95
CA-F72GF 440-470 6db 3' 6" tunable ant	129.95	119.95
CA-Super22 220 6.6db 8' 2" base ant	159.95	149.95
CFC-771 900MHz 4.5' 7.14db N base/rptr Δmv	97.40	69.95
CMR-241 2m/440 4.5/7.2db 6.5' rptr ant	174.95	164.95
CX-333 2m/220/440 6.5/7.8/9db 10.25' ant	199.95	179.95
CYA-1216E 1.2GHz 16el 16.6db 4' 5" N beam	149.95	139.95
DS-15 6m/2m/440/900/1.2 discone antenna	129.95	119.95
FP-19 900 MHz 16db 7' 4" type N base/rptr	121.95	112.95
GP-3 2m/440 4.5/7.2db 5' 11" base/rptr ant	109.95	99.95
GP-6 2m/440 6.5/9db 10' 2" base/rptr ant	174.95	164.95
GP-9 2m/440 8.5/11.9db 17' 8" base/rptr	224.95	199.95
GP-9N 2m/440 8.5/11.9db 17' 8" N base/rptr	224.95	199.95
GP-15 6/2m/440 3/6.2/8.6db 8' base	174.95	164.95
GP-21/CA-1221S 1.2 14.8db 8.5' N base/rptr	189.95	169.95
GP-24 2.4GHz 12.4db 2' type N base/rptr	229.95	199.95
GP-93 2m/440/1.2 4.5/7.2/10db 5' 7" type N	144.95	134.95
GP-98 2m/440/1.2 6.5/9/13.5db 9' 8" N ant	224.95	199.95
GPX-2010 2m/440 9.5/13.2db 23' 4" base/rptr	399.95	349.95
PYA-913 900MHz 13el 15.8db 4' 8" type N beam	169.95	159.95

DUPLEXERS AND TRIPLEXERS

CF-142 1.3-150/200-480 600/400w UHF/leads	$ 79.95	
CF-360A 1.3-30/50-470 600w UHF w/leads	69.95	
CF-360B 1.3-30/50-470 600w UHF/common lead	69.95	
CF-413A 440/1.2 500/200w N w/leads	74.95	
CF-413B 440/1.2 500/200w N/UHF/N leads	74.95	
CF-416A 2m/440 800/500w UHF w/leads	54.95	
CF-416C 2m/440 800/500w N/UHF/N leads	54.95	
CF-416W 1.3-250/400-1400 400/200w N/leads	79.95	
CF-530 1.3-90/125-470 600w UHF w/leads	74.95	
CF-706 1.3-56/75-320 350w UHF w/leads	74.95	
CF-4130A 440/1.2 500/200w N, no leads	74.95	
CF-4160I 2m/440 800/500w UHF/UHF/N, no leads	52.25	

JARED, KB9LTV
Sales– Milwaukee Store

If possible, phone in during afternoon hours for least chance of busy lines

1-800-558-0411

COMET - continued

	Reg	Sale
CF-4160J 2m/440 800/500w SO239, no leads	58.95	
CF-4160K 2m/440 800/500w all UHF, no leads	52.25	
CFX-324A 2m/220/440 600w UHF w/leads	88.95	
CFX-324B 2m/220/440 600w UHF, no leads	85.95	
CFX-431A 2m/440/900-1.2 N/UHF/N/N, leads	89.95	
CFX-431B 2m/440/900-1.2 N/UHF/UHF/N, leads	89.95	
CFX-514 HF/2m/440 800/800/500w UHF w/leads	84.95	
CFX-514J HF/2m/440 800/800/500w UHF, no leads	79.95	
CFX-4310B 2m/440/900-1.2 N/UHF/N/N, no leads	84.95	
CFX-4310C 2m/440/1.2; Kenwood TM-741A/941A	84.95	
CFX-5140 HF/6m/2m/440 800/800/500w UHF, no leads	79.95	

HT AND HAND-HELD SCANNER ANTENNAS

CH-32 2m/440 1.75" BNC antenna	$ 32.95	
CH-72S 2m/440 0/3.2db 15" BNC antenna	29.95	
CH-701X 2m/440/900 2/3.4/5.5db 19" BNC	54.95	
CH-720C 2m/440 semi-rigid 0/3.8db 18" BNC	39.95	
CH-722SA 2m/440 3/5.5db BNC whip ant	45.95	
CY-1205 1.2GHz 11db 7" BNC beam .....Dm	41.45	
CY-1205BNC 1.2GHz 11db 7" BNC beam	49.95	
SH-55 2m/440 1.5/3.2db 15" BNC ant	33.95	
SH-95 2m/440/1.2 1.5/2.15/5.5db BNC ant	49.95	
SMA-3 2m/440 1.2/1.7db 9.75" SMA ant	41.95	
SMA-501 2m/440/900 1.5" SMA ant	29.95	

SWR/POWER METERS & MINIMETERS

CM-120 1240-1300 MHz type N minimeter	$ 99.95	
CM-690 1.9-60 MHz 20/150w minimeter	79.95	
CM-720 140-150/430-450 MHz minimeter	79.95	
CM-720N 140-150/430-450 type N minimeter	84.95	
CM-900 900-920 MHz N minimeter .....Dmv	99.95	69.95
CM-903 900-920 MHz type N minimeter	99.95	
CMX-1 1.8-60 MHz 2000w SWR/pwr/rem head	209.95	189.95
CMX-2 1.8-200MHz 200w SWR/pwr/rem head	199.95	179.95
CMX-3 140-525 MHz 200w SWR/pwr/rem head	189.95	169.95
EKS-3 10' remote head extension cable	23.95	

ACCESSORIES

CS-290P 1500MHz 150w N lightning protect	$ 39.95	
CS-400P 500MHz 250w lightning protect	34.95	
CSP-30 Mini speaker w/magnet mt	34.95	
CSP-80 Mini spkr w/mag mt, noise filt, mute	39.95	
CSW-20N 0-1300MHz N coax switch .....Dmf	99.95	64.95
HM-P2F Mini spkr/mic; Ali/Ico/Sta/Yae	32.95	
HM-P2K Mini spkr/mic for Kenwood	32.95	
HM-P4F Mini "HT" spkr/mic; Ali/Ico/Sta/etc	32.95	
HM-P4K Mini "HT" spkr/mic for Kenwood	32.95	
HM-P4Y Mini "HT" spkr/mic for Yaesu	32.95	

Communications Specialists (COM)

SS-32P/SS-32PA Prog CTCSS encoder	$ 28.95	
SS-32SMP Hybrid micro-sized encoder	27.95	
TE-32 32-tone CTCSS prog encoder box	49.95	
TE-64 64-tone CTCSS/burst switch enc box	79.95	
TS-32P 32-tone CTCSS prog encoder/decoder	57.95	
DTD-1 DTMF decoder	49.95	
ID-8 Automatic morse station identifier	69.95	

CONNECTORS

AMPHENOL COAX CONNECTORS (AMP)

83-1SP-1050 Male coax plug (PL-259)	$ 1.86	
83-1SP Silver plated coax plug (PL-259)	2.87	
Van Gorden **(VAN) silver plated** teflon PL-259	2.99	
83-185 Reducer for RG-58 (UG-175)	.60	
83-168 Reducer; RG-59/RG-8X (UG-176)	.58	
83-1AP Right angle adaptor (UG-646)	5.69	
83-1J Double female adaptor (PL-258)	3.28	
83-1R Female chassis mt socket (SO-239)	2.15	
83-1H Hood; in-line use (UG-106) .Δmwfcv	3.95	1.95
83-1T T-connector adaptor (M-358)	8.30	
83-877 Double male adaptor .....Dmwcv	10.61	
83-878 Single hole ⅝" chassis socket	2.58	
31-002 BNC male connector for RG-58	3.38	
31-012 BNC male connector; RG-59/RG-8X	3.95	
31-221 BNC female chassis socket	1.98	
82-24 Type N female chassis mt socket	4.71	
82-61 Type N male connector for RG-8	7.34	
82-64 Type N right angle adaptor	19.96	
82-202-1006 Type N male; Belden 8214/9913	7.02	
82-209 Type N female in-line for RG-8 Dmwfcv	7.10	4.95
34025 Type N male connector for RG-58	6.30	

CONNECTORS - continued

AMPHENOL COAX ADAPTORS (AMP)

2900 SO-239 to BNC male adaptor	$ 9.48	
4400 SO-239 to type N male adaptor	13.13	
34125 Type N female - PL-259 adapt	19.99	
45250 Type N double male adaptor .....Dwf	16.19	9.95
31-28 BNC female to PL-259 adaptor	8.93	
83-10 SO-239 to Motorola/phono plug .....Dm	10.84	8.95

AIM COAX CONNECTORS & ADAPTORS (AIM)

25-7351 Chassis mt SO-239 double female	$ 5.10	
25-7365 BNC female to SO-239	4.40	
25-7420 BNC male to SO-239	3.30	
26-8010 Type N double female	5.20	
26-8011 Type N chassis mount	2.50	
26-8015 N male to SO-239	7.40	
26-8016 BNC female to N male	7.40	
26-8017 BNC male to N female	7.40	
27-8110 BNC female to RCA male .....Δmwfv	2.50	
27-8120 BNC female to PL-259	3.20	
27-8130 BNC double male	4.30	
27-8140 BNC T; 2 female, 1 male	3.90	
27-8142 BNC T, 3 male .....Δmwfv	8.40	4.95
27-8450 BNC chassis mt, 4 screw holes	3.00	
27-8460 ⅜" hole BNC chassis mt	1.40	
27-8470 Dual BNC chassis mount	4.50	
29-3855 BNC female to SMA male	8.80	
29-4140 SO-239 to mini PL-259	5.00	

CONNECTORS UNLIMITED (CON)

306 SO-239 to BNC male adaptor .....Δm	$ 2.76	
1721 7-pin DIN plug .....Δm	1.38	
X-3013 8-pin female mic plug .....Δmw	3.11	

Switchcraft 1/4 " Plugs w/Solder Terminals (SWI)

267 3-conductor, plastic handle .....Δm	$ 5.50	3.95
237 3-cond, plastic handle, rt angle plug Δm	5.15	99¢
260 3-conductor w/screw terminals	6.50	
297 3-conductor, metal handle .....Δm	6.55	4.95
250 2-conductor, plastic handle	3.90	
220 As abv, w/screw terminals, rt angle plug	5.70	
280 2-conductor, metal handle	4.85	

SWITCHCRAFT PHONO-TYPE CONNECTORS (SWI)

3501MC Phono plug with cable clamps	$ .90	
3502 Shielded phono plug	2.35	
3507 RF-type phono plug	3.30	

VANCO MICROPHONE CONNECTORS (VCO)

CBC-2 2-pin female mic plug	$ 3.14	
CBC-3 3-pin female mic plug	2.99	
CBC-4 4-pin female mic plug	4.04	
CBC-4P Panel mt 4-pin male	1.99	
CBC-5 5-pin female mic plug	3.87	
CBC-5P Panel mt 5-pin male	1.99	
CBC-6 6-pin female mic plug	4.06	
CBC-6P Panel mt 6-pin male	3.98	
CBC-8 8-pin female mic plug	5.89	
CBC-8P Panel mt 8-pin male	5.57	

KENWOOD DIN PLUGS (KEN)

7-pin DIN plug	$ 3.92	
8-pin DIN plug	4.51	
13-pin DIN plug	6.76	

VANCO MINI PHONE PLUGS (VCO)

P-25 2.5mm sub-miniature phone plug	$ .99	
P-35 3.5mm miniature phone plug	.99	
P-12V Cig lighter plug w/leads	2.91	

Connect Systems (CSY)

CS-700 Simplex interconnect .....Dmwfv	$485.00	299.95
CS-800 Full duplex patch & repeater controller	485.00	359.95
CS-900 Simplex interconnect	485.00	359.95
Private Patch V Multi-mode interconnect ..Dwf	615.00	399.95
9801 Elec voice delay (EVD); Pri Pch V ..Δm	141.50	99.95
8200D Full duplex patch/repeater controller	713.00	469.95
CD-2 DTMF/CTCSS/DCS decoder unit/RS-232	325.00	269.95
CD-2P PC application program for CD-2	113.00	99.95
LT-2P PC application program for LT-2 ...Δm	113.00	69.95
CS-1688 Deluxe DTMF dec/controller .....Dwfv	213.00	169.95

COYNE (COY)

HAM RADIO TEST GENERATOR FOR MACINTOSH

MacHam no code **Tech**nician, includes Novice 2A	$ 39.95

COYNE - continued

	Reg	Sale
MacHam General	34.95	
MacHam Advanced	34.95	
MacHam Extra	34.95	
MacHam Radio Morse Code training software	39.95	

CROSS DEVICE (CRS)

STUF Coax connector waterproofing filler	$ 4.50	

CUSHCRAFT (CUS)

VHF/UHF FM BEAMS (Vertical polarization)

A148-3S 2m, 3 el wideband beam	$ 46.00	43.95
A148-10S 2m, 10 el wideband beam	85.00	74.95
A148-20S 2 A148-10S vert stacked	233.00	186.95
A449-6S 440 MHz, 6 el, 3' boom, 10 db	59.00	56.95
A449-11S 440 MHz, 11 el, 4.5' boom, 13 db	83.00	74.95
A270-6S 2m/440, 3/3 el, 2.8' boom, 7.8 db	73.00	64.95
A270-10S 2m/440, 5/5 el, 6.17' boom, 10 db	99.00	79.95

FM VERTICAL STACKING KITS* (Adds 3 db)

A14-VPK Stacking kit for 2 A147-4 .....Dwv	$ 61.00	9.95
A14-SK Harness only for 2 A148-3S	48.00	39.95
A148-VPKS Stacking kit for 2 A148-3S/10S	108.00	89.95
A148-SK Harness only for 2 A148-10S	48.00	44.95
A449-VPKS Stacking kit; 2 A449-6S/11S	65.00	62.95
A449-SK Harness only for 2 A449-6S/11S	48.00	44.95

*Prices are for stacking kits only

FM RINGOS - 1/2 Wave Verticals - 3.75 db

AR-10 10m FM Ringo, 1000w	$ 71.00	62.95
AR-6 6m FM, 1000w	71.00	62.95
AR-2 2m FM, 1000w	50.00	39.95
AR-220 220 MHz FM, 500w	49.00	39.95
AR-450 440 MHz FM, 500w	49.00	39.95
AR-270 2m/440 MHz FM, 250w, 3.7/5.5db	88.00	69.95
AR-270B 2m/440 MHz FM base ant	128.00	99.95

RINGO RANGERS - FM Verticals - 6 db

ARX-6 6m FM Ringo Ranger	$252.00	199.95
ARX-2 2m FM Ringo Ranger	60.00	49.95
ARX-2B 2m FM Ringo Ranger II, 1000w	73.00	59.95
ARX-220B 220 FM Ringo Ranger II, 500w	73.00	59.95
ARX-450B 440 FM Ringo Ranger II, 500w	73.00	59.95
ARX-450BN 440 FM Ringo Ranger II w/type N	88.00	74.95

HIGH PERFORMANCE 2m/440 VERTICALS

ARX-270N 2m/440 9/12 db fg type N ant	$273.00	209.95
ARX-270U 2m/440 9/12 db fg SO-239 ant	273.00	209.95

FM 4-POLES (less vertical support mast)

AFM-4DA 2m FM, 23' high, 6/9 db	$148.00	119.95
AFM-24DA 220 MHz FM, 15' high, 6/9 db	131.00	99.95
AFM-44DA 440 MHz FM, 8' high, 6/9 db	114.00	89.95

TWIST, OSCAR BEAMS (Horiz/Vert Polarization)

A148-20T 2m 20el 10.8'bm 11.1db twist	$126.00	99.95
22XB 2m 22el 19.3' bm 14db circ beam/relay	290.00	199.95
719B 432 19 el beam	142.00	119.95
729B 432 29 el beam	220.00	189.95
738XB 432 38el 14.3'bm 15.5db circ w/relay	268.00	189.95
PS-4 Remote polarity switch .....Dmf	150.00	79.95
PS-4A Remote polarity switch	150.00	109.95

BOOMER ANTENNAS

617-6B 6m Boomer, 6 el, 34' boom, 14 db	$423.00	299.95

CUSHCRAFT - continued

	Reg	Sale
124WB 2m Boomer, 4 el, 4' boom, 10.2 db	73.00	64.95
13B2 2m Boomer, 13 el, 15' boom, 15.8 db	142.00	119.95
17B2 2m Boomer, 17 el, 31' boom, 18 db	246.00	199.95
26B2 2 13B2s vertically stacked	406.00	299.95
220B 220 Boomer, 17 el, 19' boom, 17 db	192.00	149.95
224WB 220 Boomer, 4 el, 3' boom, 10.2db	67.00	59.95
225WB 220 wideband Boom, 15el, 10'bm, 15.5db	149.00	119.95

BOOMER STACKING KITS*

617-SK Harness, pwr divider for 2 617-6Bs	$160.00	109.95
22-SK Harness, power divider; 2 13B2s	98.00	79.95
22N-SK Harness, pwr divider; 2 17B2s	160.00	119.95
26B2-VPK Vertical polar kit; 2 13B2s	210.00	159.95
220-SK Harness, power divider for 2 220Bs	98.00	79.95
220-QK Quad stacking kit for 4 220Bs .....Dw	390.00	79.95
PD-2 Power divider for 2 13B2s	48.00	44.95
PD-2N Power divider for 2 17B2s	91.00	79.95
PD-4 Power divider for 4 13B2s	61.00	54.95
PD-4N Power divider for 4 17B2s	113.00	89.95
PD-222 Power divider for 2 220 Boomers	48.00	44.95
PD-224 Power divider for 4 220 Boomers	61.00	54.95

*Prices are for stacking kits only

VHF/UHF BEAMS (Horizontal polarization)

A50-3S 6m, 3 el, 6' boom, 8 db, stainless hdwre	$110.00	89.95
A50-5S 6m, 5 el, 12' boom, 10 db, stainless hdwre	182.00	139.95
A50-6S 6m, 6 el, 20' boom, 11db, stainless hdwre	296.00	229.95
A144-7S 2m, 7 el, 8' boom, 10 db	60.00	54.95
A148-10S 2m, 10 el wideband beam	85.00	74.95
A430-11S 430 MHz, 11 el, 4' boom, 13 db	87.00	76.95

HORIZONTAL STACKING KITS* (Adds 3 db)

A535-SK For 2 A50-3S/5S	$ 48.00	44.95
A561-SK For 2 A50-6S	63.00	54.95
A17-SK For 2 A144-7S, 79" spacing	48.00	44.95
A148-SK Harness only for 2 A148-10S	48.00	44.95
A41-SK For 2 A430-11S, 26" spacing	48.00	44.95

*Prices are for stacking kits only

PROJECT GOLD SERIES MOBILE ANTENNAS

CG-144AS 2m ¾" mt coil & whip only	$ 99.00	79.95
CG-270AS 2m/440 ¾" mt coil & whip only	99.00	79.95

$10 rebate from Cushcraft - CG-270AS w/CS-MG, CS-MGN or CS-TL mount & new dual band radio - thru 1/15/97

CUSHCRAFT/SIGNALS MOBILE ANTENNAS

CS-28M 10m magnet mt antenna	$ 64.00	59.95
CS-50 6m ¾" hole mt 3 db antenna	55.00	49.95
CS-50M 6m magnet mt 3 db antenna	64.00	59.95
CS-50T 6m trunk lip mt 3 db antenna	64.00	59.95
CS-1147M 2m ¼ wave magnet mt antenna	42.00	39.95
CS-147 2m ¾" hole mt 3 db antenna	55.00	49.95
CS-147M 2m magnet mt 3 db antenna	64.00	59.95
CS-147T 2m trunk lip mt 3 db antenna	64.00	59.95
CS-147A 2m coil & whip only	43.00	36.95
CS-220 220 ¾" hole mt 3 db antenna	55.00	49.95
CS-220M 220 magnet mt 3 db antenna	64.00	59.95
CS-220T 220 trunk lip mt 3 db antenna	64.00	59.95
CS-1450M 440 ¼ wave magnet mt antenna	42.00	39.95
CS-450 440 ¾" hole mt 5 db antenna	55.00	49.95
CS-450M 440 magnet mt 5 db antenna	64.00	59.95

CUSHCRAFT - continued

	Reg	Sale
CS-450T 440 trunk lip mt 5 db antenna	64.00	59.95
CS-450A 440 coil & whip only	43.00	36.95
CS-270M 2m/440 3.7/6 db magnet mt ant	87.00	72.95
CS-270A 2m/440 coil & whip only	58.00	49.95

MOUNTS ONLY FOR ABOVE MOBILE ANTENNAS

CS-MG Magnetic mount	$ 29.00	
CS-MGN Magnetic mount w/N connector	29.00	
CS-TL Trunk lip mount	29.00	

PORTABLE ANTENNA FOR KENWOOD

TK-440B 440 6" TK duck for Kenwood .....Dm	$ 17.00	1.95

SKYWALKER HF BEAMS

40-2CD 40m, 2 el, 23' boom, 5.5 db	$626.00	429.95
20-4CD 20m, 4 el, 32' boom, 10 db	626.00	429.95
20-3CD 20m, 3 el, 20' boom, 8 db	438.00	319.95
15-4CD 15m, 4 el, 20' boom, 10 db	354.00	249.95
15-3CD 15m, 3 el, 14' boom, 8 db	305.00	219.95
10-4CD 10m, 4 el, 16' boom, 10 db	299.00	214.95
10-3CD 10m, 3 el, 10' boom, 8 db	232.00	169.95
TEN-3 10m, 3 el, 8' boom, 8 db	150.00	119.95

MULTIBAND VERTICAL ANTENNAS

AV-80 75/80m 36' vertical antenna	$444.00	329.95
AV-5 80/40/20/15/10m 25' vertical	218.00	169.95
AV-3 20/15/10m 14' vertical	122.00	99.95
AP-8A 80-10m 8-band ruggedized vertical	289.00	219.95
APR-18A Radial kit	68.00	64.95
R-5 20/17/15/12/10m half wave vertical	382.00	279.95
R-7 40/30/20/17/15/12/10m vertical ....Dmw	510.00	349.95
R-7000 40/30/20/17/15/12/10m vertical	510.00	379.95
R-80 80m kit for R-7000	155.00	129.95

ROTATABLE DIPOLES

D-3 20/15/10m World Ranger dipole	$244.00	179.95
D-3W 30/17/12m rotatable dipole	249.00	189.95
D-4 40/20/15/10m World Ranger dipole	331.00	249.95
D-40 40m World Ranger dipole	296.00	219.95

MULTIBAND BEAM ANTENNAS

A-3S 20/15/10m, 3el, 14'bm, 8db, stainless hdwre	$497.00	329.95
A-3SDX 20/15/10m, 3el, transportable beam	550.00	389.95
A-743 40m or 10 MHz add-on kit; A-3/A-3S	155.00	129.95
A-4S 20/15/10m, 4el, 18'bm, 9db, stainless hdwre	597.00	419.95
A-744 40m or 10 MHz add-on kit; A-4/A-4S	155.00	129.95

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A-3WS 17 & 12m, 3 el, 14' boom, 8 db	390.00	279.95
A-103 30m add-on kit for A-3WS	155.00	129.95
ASL-2010 13.5-32MHz 8el 18' bm 6.4db LP	828.00	569.95
AFB-2 160-10m 9-band balun	60.00	49.95

LIGHTNING ARRESTORS

LAC-1 SO-239/PL-259 coax arrestor	$ 13.00	
LAC-2 SO-239/SO-239 coax arrestor	13.00	
LAC-4 200w SO-239 gas tube arrestor	43.00	39.95
LAC-4H 2kw SO-239 gas tube arrestor	47.00	42.95
LAC-4N 200w type N gas tube arrestor	55.00	49.95
LAC-4NH 2kw type N gas tube arrestor	57.00	52.95
LC-2 Extra 200w cartridge for LAC-4/4N	18.00	
LC-2KW Extra 2kw cartridge for LAC-4H/4NH	20.00	
5VB Vinyl connector boots .....pack of 5	13.00	

DCI (DCI)

146-4H 2m 200w bandpass filter	$ 89.00	
223.5-3H 220 200w bandpass filter	89.00	
445-10C 440 200w bandpass filter	109.00	

DC SALES (DCS)

Tenna Hitch Antenna mount for trailer hitch	$ 32.95	

DAIWA (DAI)

CS-201 2-position 600 MHz coax switch	$ 29.95	
CS-401 4-position 800 MHz coax switch	129.95	119.95
CN-101 1.8-150MHz SWR/power meter/light	119.95	89.95
CN-103M 140-525MHz SWR/power meter	129.95	99.95
CN-410M 3.5-150MHz 15/150w mob meter	119.95	89.95
CN-460M 140-450MHz 15/150w mob meter	119.95	89.95
CN-465M 140-450MHz 15/75w mobile meter	119.95	89.95
DP-810 1.8-150MHz digital SWR/power	269.95	229.95
DP-820 140-525MHz dig SWR/power meter	315.95	249.95
DP-830 1.8-150/140-525 digital SWR/power	399.95	319.95
NS-660PA 1.8-150 30/300/3kw PEP SWR/pwr	249.95	199.95

DAVIS (DAV)

7400 Perception II indoor WX unit	$150.00	129.95
7415 Wizard II-S weather station	150.00	129.95
7425 Wizard III weather station	195.00	169.95
7440 Monitor II weather station	395.00	349.95
7852 Rain Collector II, 0.01"	75.00	69.95
7977 Electronic rain counter, 0.01"	30.00	
7859 External temp/humd Sensor II; 7440	125.00	109.95
7862 Weatherlink IBM interface/software	165.00	139.95
7866 Weatherlink Mac interface/software	165.00	139.95
7867 Weatherlink IBM conversion kit	40.00	
7868 Weatherlink Mac conversion kit	40.00	
7870 Modem adapter for 7862/7866	6.00	
7873 Cig lighter power cord	9.00	
7876-040 4-conductor 40' extension cable	18.00	
7878-040 6-conductor 40' extension cable	22.00	
7880 8-conductor 25' junction box cable	15.00	
7881 8-conductor 50' junction box cable	25.00	
7882 8-conductor 100' junction box cable	45.00	
7890 Mast mount for anemometer	16.00	
7520 Stand alone 0.01" rain gauge/elec ctr Dm	95.00	69.95

DIAMOND (DIA)

SWR/POWER METERS

SX-100 1.6-60 MHz 30/300/3kw PEP meter	$159.95	149.95
SX-200 1.8-200 MHz 5/20/200w PEP meter	119.95	109.95
SX-400 140-525 MHz 5/20/200w PEP meter	139.95	129.95

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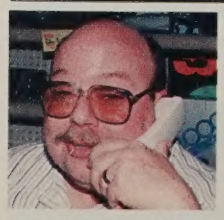

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DIAMOND - continued

	Reg	Sale
SX-600 Dual band 1.8-160/140-525 200w PEP meter	199.95	179.95
SX-1000 1.8-160/430-1300MHz 200w PEP meter	269.95	249.95

HT & HANDHELD SCANNER ANTENNAS

RH-3 2m/440 1.75" BNC mini HT duck	$ 34.95	
RH-77CA 2m/440 15" BNC rubber gain ant	34.95	
RH-205 2m ⅝ wave telescopic HT antenna	27.95	
RH-519 2m/440 8.3" flexible BNC whip	34.95	
RH-707 2m/440 8¼" tiltable BNC whip	37.95	
RH-951 2m/440/1.2GHz 15" BNC duck Dmwfv	57.95	49.95
RH-951S 2m/440/1.2GHz 15" BNC slim duck	57.95	
SRH-519 2m/440 8.3" flexible SMA whip	34.95	
SRH-805 2m/440/1.2GHz 1.75" SMA ant	29.95	
SRH-815 2m/440/1.2GHz 6" flex SMA whip	44.95	

MONO-BAND MOBILE ANTENNAS

NR-124 1.2GHz 8.4db 25" type N mobile ant	$ 66.95	
NR-140A 220 4db 37" mobile antenna	60.95	
SG-2000A 2m 5.2db 62" mobile antenna	89.95	
SG-6000NMO 6m 2.15db 39" NMO mobile	84.95	

DUAL-BAND MOBILE ANTENNAS

CR-214S 2m/220 2.1/3.4db 37" mobile ant	$ 62.95	
CR-224A 2m/220 5/6db 69" mobile antenna	109.95	99.95
NR-72BNMO Black 2m/440 2.15db 14" NMO	46.95	
NR-73BNMO Blk 2m/440 2.15/5.5db 34" NMO	62.95	
NR-770HA 2m/440 3/5.5db 40" mobile ant	62.95	
NR-770HB Black 2m/440 3/5.5db 40" mobile	64.95	
NR-770HNMO 2m/440 3/5.5db 40" NMO mobile	64.95	
NR-770HBNMO Blk 2m/440 3/5.5db 40" NMO	66.95	
NR-770RA 2m/440 3/5.5db 39" mobile ant	62.95	
NR-770SA 2m/440 2.15db 16.5" mobile ant	41.95	
NR-790A 2m/440 4.5/7.2db 57" mobile ant	94.95	89.95
SG-7000A 2m/440 2.15/3.8db 19" mobile	73.95	
SG-7200NMO 2m/440 3.2/5.7db 38" NMO ant	88.95	
SG-7500A 2m/440 3.5/6db 41" mobile ant	86.95	
SG-7500NMO 2m/440 3.5/6db 41" NMO ant	88.95	
SG-7900A 2m/440 5/7.6db 62" mobile ant	124.95	114.95
TG-509 2m/440 2.1/5.5db 34" glass m Δmwv	199.95	149.95

TRI-BAND MOBILE ANTENNAS

CR-320A 2m/220/440 2.15/3.8/5.5db 36"	$ 98.95	93.95
CR-627B 6m/2m/440 2.15/4.5/7.2db 60" ant	109.95	99.95
CR-627BNMO 6m/2m/440 2.15/4.5/7.2db 60"	109.95	99.95
MV-3A 10/6/2m 57" UHF base mobile ant	84.95	
HVC-7 40m loading coil for MV-3A	39.95	
HVC-14 20m loading coil for MV-3A	39.95	
HVC-18 17m loading coil for MV-3A	39.95	
HVC-21 15m loading coil for MV-3A	29.95	
NR-2000NA 2m/440/1.2 3/6/9.7db 39" N mob	92.95	89.95

MAGNET MOUNTS

DP-SPM/58U Mag mt w/RG-58U; 45" max	$ 43.95	
DPK-4NM-M Hvy mag mt, Yaesu N, 45" max	49.95	
DPK-4NM-N Hvy dty mag mt, cbl, N, 45" max	49.95	
MCR-M Mag mt HT base w/coax/tiltable BNC	44.95	
SPM-35 Hvy duty mag mt, cable, 45" max	44.95	

TRUNK LIP MOUNTING KITS

K-200 Folding hatch/tnk mt; NR/SG ants	$ 39.95	
K-200KM Folding hatch/tnk mt/coax; NR/SG	69.95	
K-400 Hatch/trunk mt; NR/SG antennas	39.95	
K-400C Hatch/trunk mt w/coax; UHF mount	69.95	
K-400CNMO Hatch/trunk mt w/coax; NMO mt	69.95	
K-400-3/8C Trunk mount w/6' cable; ⅜-24	69.95	
C-110 10' extension cable for K-400-3/8C	14.95	
K-400M Hatch/tnk mt w/cable; NR/SG .....Dcv	79.95	74.95
K-400N Hatch/trunk mt/coax & type N ..Dmfv	74.95	69.95
K-400NMO Dlx hatch/tnk mt/coax; NMO ...Dfv	67.95	64.95
K-600M Tilt angle trunk mt w/cable	69.95	
K-600N Tilt angle tnk mt w/N/cable .....Dmfc	74.95	69.95
K-600P Tilt angle trunk mt w/cable, Yaesu N	72.95	
K-601M SO-239 hideaway trunk mt, 6' coax	69.95	
K-601NMO NMO hideaway trunk mt, 6' coax	69.95	
C-110 10' extension cable for K-601 mts	14.95	

GUTTER MOUNTS & KITS

K-300 Folding gutter mt; NR/SG antennas	$ 39.95	
K-300C Gutter mt w/cable; UHF mount	69.95	
K-300KM Folding gutter mt w/coax; NR/SG	67.95	
K-300M Gutter mt w/coax; NR/SG ants Dmwfc	79.95	69.95

MIRROR & LUGGAGE RACK MOUNTS & KITS

K-540 Mirror/luggage rack mount	$ 39.95	
K-540KM Mirror/luggage rack mt w/coax	67.95	

DIAMOND - continued

	Reg	Sale
K-550 Luggage mt; new mini vans (use GLP)	49.95	
K-550KM Luggage mt w/SO-239 base/coax	69.95	

MOUNTING GROUP HARDWARE

C-101 SO-239 mt, 6.5' RG-316 low-loss coax	$ 29.95	
C-110 10' ext cable; C-101/K-601/K-400-3/8C	14.95	
C-211 SO-239 mt, 6.5' coax, 10' coax entend	39.95	
GLP-5 UHF base mtg group hrdwr; mini coax	10.95	
GLP-5N UHF mtg grp hrdwr; mini coax, Yae N	13.45	
GLP-58 UHF base mounting group hardware	10.45	
NMO-UHF Adapter to NMO; not for SG, 45" max	23.95	

MONO-BAND BASE STATION ANTENNAS

DP-GH62 6m 6db 21' base antenna	$157.95	147.95
F-22A 2m 6.7db 10.5' base antenna	114.95	104.95
F-22J 143.5-146.5MHz 6.7db 10.5' base ant	114.95	104.95
F-23A 2m 7.8db 15' base antenna	172.95	162.95
F-23C1 148-154MHz 7.8db 15' comm base	183.95	159.95
F-23J 143.5-146.5MHz 7.8db 15' base ant	172.95	162.95
F-142A 220 MHz 5.5db 6' base antenna	136.95	124.95
F-718A 440 11.5db 15' type N base antenna	246.95	226.95
F-718C2 460-472MHz 11.5db 15' N comm	261.95	239.95
F-718J 428-442MHz 11.5db 15' N base ant	246.95	226.95
F-718L 420-430MHz 11.5db ATV N base ant	246.95	219.95
F-1230A 1.2GHz 13.5db 10.5' type N base ant	178.95	164.95

DUAL-BAND BASE STATION ANTENNAS

U-200 440/1.2GHz 8.3/11.7db 6' N base ant	$141.95	129.95
U-300A 440/1.2GHz 8.6/13.2db 8.3' N base ant	178.95	159.95
X-50A 2m/440 4.5/7.2db 5.6' base antenna	125.95	115.95
X-200A 2m/440 6/8db 8.3' base antenna	167.95	157.95
X-300A 2m/440 6.5/9db 10.2' base ant	183.95	173.95
X-500HNA Hvy duty 2m/440 8.3/11.7db 17.8' N ant	269.95	249.95
X-510MA 2m/440 8.3/11.7db 17.2' base ant	219.95	199.95
X-510NA 2m/440 8.3/11.7db 17.2' type N ant	219.95	199.95
X-510NJ 143.5-146.5/428-442MHz 17.2' N	219.95	189.95
X-700HA 2m/440 9.3/13db 24' base ....Dmcv	439.95	369.95
X-700HNA 2m/440 9.3/13db 24' type N ant	439.95	399.95
X-2200A 2m/220 6/7.8db 11.5' base ant	183.95	173.95

TRI-BAND BASE STATION ANTENNAS

D-130J 25-1300 MHz 200w discone ant	$101.95	94.95
U-5000A 2m/440/1.2GHz 4.5/8.3/11.7db 6' N	167.95	157.95
V-2000A 52-54MHz/2m/440 2.1/6.2/8.4db 8.3'	172.95	162.95
X-3200A 2m/220/440 6/7.8/8db 10' base	241.95	221.95
X-6000A 2m/440/1.2 6.5/9/10db 10.5' N	219.95	199.95

DUPLEXERS & TRIPLEXERS

MX-37 HF-440/1.2 100/50w N duplexer	$ 74.95	
MX-37N HF-440/1.2 100/50w N dplxr .Dmwfcv	60.95	49.95
MX-62M HF-6m/2m, 12" cables duplexer	77.95	
MX-72D HF-2m/440 400/150/100w duplexer	52.95	
MX-72DN As MX-72D, w/type N on 440	52.95	
MX-72H As MX-72D, w/12" cables	58.95	
MX-72N As MX-72D, type N on 440, 12" cables	58.95	
MX-214 2m/220 150/100w w/12" cables	73.95	
MX-214D As MX-214, no cables	73.95	
MX-324 2m/220/440 triplexer	99.95	94.95
MX-324D As MX-324, no cables	99.95	94.95
MX-2000 HF-6m/2m/440 400/400/250w triplexer	94.95	89.95
MX-2000D As MX-2000, no cables	99.95	94.95
MX-3000 HF-2m/440/1.2 400/200/100w triplexer	94.95	89.95
MX-3000D As MX-3000, no cables	89.95	
MX-3000DN As MX-3000, N on 440, 1.2 Dmv	89.95	84.95
MX-3000N As MX-3000, type N, 12" cables	94.95	89.95

ACCESSORIES

CA-23R DC-1GHz 200w N lightning protect .... Dw	$ 39.95	19.95
CA-35R DC-500MHz 400w lightning protect	36.95	
CX-210A 1.5kw DC-1000MHz coax switch	51.95	
CX-210N 1.5kw DC-1500MHz N coax switch	93.95	89.95
DL-30A 15/100w peak 0-500MHz dummy load	33.95	
HB-100 Desk mount bracket for HT ....Δmwfv	44.95	29.95
HB-400 HT air vent dash mount	19.95	
HB-450 HT adjustable air vent dash mount	69.95	
HB-500 Remote head air vent dash mount	22.95	
HB-650 HT door mt; side window/glove box	69.95	
SM-505KTS Spkr/mic; Kenwood TR-2500 .Dm	29.95	19.95

Diamond Systems (DSY)

IBM LICENSE COURSE; THEORY/REGULATIONS/CODE

DSI-IBM-N Novice Class License software	$ 49.95	39.95
DSI-IBM-T Technician Class License software	44.95	34.95
DSI-IBM-NC No Code Tech Class License software	59.95	49.95

DIAMOND SYS - continued

	Reg	Sale
DSI-IBM-G General Class License software	44.95	34.95
DSI-IBM-A Advanced Class License software	59.95	49.95
DSI-IBM-E Extra Class License software	59.95	49.95

DIGIMAX (DIG)

D-500 512 MHz 8-digit counter - 1 PPM	$149.95	139.95
D-510A 1 GHz 8-digit counter - 1 PPM	179.95	159.95
D-612 1.2 GHz 9-digit counter - .1 PPM	259.95	229.95
D-1200 1.2 GHz 9-dig .1 PPM ctr/audio mult	299.95	269.95
AC-12 12vdc adaptor	8.95	
AM-12 10X/100X audio multiplier .....Δwfv	39.95	9.95
B-12 Dry cell holder, switch for D-612	10.95	
BAC-5 Nicad batt pack for D-500/D-510A	29.95	
BAC-12 Nicad batt pack; D-612/D-1200	34.95	
RF-500X Inline RF sampler, 250w maximum	39.95	
T-1200 21" BNC telescopic antenna	8.95	

DRAKE (DRA)

R-8A Shortwave receiver	1099.00	1079
1590 35-55, 108-174 MHz VHF converter	209.00	
MS-8 1592 Speaker	49.00	
7850 R-8 technical manual .....Δwfv	39.95	
7851 R-8A technical manual	39.95	
1591 Interface computer soft; R-8 .....Dmwfv	59.00	49.95
SW-8 Shortwave receiver	699.00	
1595 Carrying case for SW-8	49.00	
SW-1 Shortwave receiver	299.00	

EDCO (EDC)

TX-146 2m 50w 40db 3-stage helical filt .Dm	$ 89.95	69.95

EIMAC TRANSMITTING TUBES (EIM)

3-500Z	$183.00
3CX800A7	469.00
3CX1200A7	665.00
4CX250B/7203	159.00
8873	489.00
8874/3CX400A7	469.00
8875	599.00
8877/3CX1500A7	1099.00

ALSO see TUBES

FORBES GROUP (FOR)

VT-14 2m Ventenna 3' 2.6 db base ant	$ 49.95
VT-22 220 Ventenna 25" 2.6 db base ant	49.95
VT-27 2m/440 Ventenna base antenna	74.95
VT-44 440 Ventenna 14" 2.6 db base ant	49.95
VT-15S Scanner Ventenna 3' 2.6 db base	49.95

Gamber-Johnson (GAM)

SS-100 Super slide mount w/ant plug	$100.22	69.95
SS-101 Extra base for SS-100	44.42	

GAP Verticals (GAP)

DX-VIII Challenger 80/40/20/15/12/10/6/2m 31.5'	$259.00
(SYN) **100'** 3/32" black double braided rope	6.95
DX-VI Eagle 40/20/17/15/12/10m 21.5' rigid	269.00
DX-IV Voyager 160/80/40/20m 45'; use 350' guy	399.00
(SYN) **350'** 3/16" black double braided rope	39.95
Titan DX 80/40/30/20/17/15/12/10m, 25'	289.00

GENESYS (GEN)

ADP-1 Chrome NMO to SO-239 adapt Δmwfv	$ 17.95	
B-27 2m/440 7" duck .....Δmwv	19.95	
B-35 2m/440 15" duck .....Δmwfv	27.95	
CT-221E Eartalk mic/amp/gain controls ..Dfc	84.95	79.95
CT-221KE Eartalk for Kenwood .....Dmc	84.95	79.95
CT-221ME Eartalk w/split plugs .....Dwc	84.95	79.95
ET-Mark II Eartalk; Ali/Ico/Sta/Yae .....Δmwv	84.95	
ET-Mark II-K Eartalk for Kenwood .....Δv	84.95	
G-1 43" 3/6db 2m/440 base antenna ..Δmcv	99.95	89.95
NMO Mount NMO mount w/16' mount ...Δwfv	10.95	
PO Mount SO-239 mount w/16' coax Δmwfcv	17.95	
QS-110 Spkr/mic; Alinco/Icom/Yaesu .Δmwfv	29.95	
QS-110K Speaker/mic for Kenwood ..Δmwfcv	29.95	
RS-402 5/20/200w 125-525 SWR/pwr Δmwcv	139.95	119.95
SY-25D VHF/UHF duplexer .....Δmwv	34.95	
T-05 Throat mic with split plugs .....Δmwcv	84.95	
T-05K Throat mic for Kenwood .....Δmwfv	84.95	
T-05M Throat mic for Motorola .....Δmv	92.95	

GLEN MARTIN (GME)

	Reg	Sale
RT-424 4.5' roof-top tower, 6 sq ft 85 mph	$149.95	
RT-832 8' roof-top tower, 8 sq ft 85 mph	219.95	
RT-936 9' roof-top tower, 18 sq ft 85 mph	369.95	
RT-1832 17.5' roof-top tower, 12 sq ft 85 mph	499.95	
LB-3755 Set of 8 3/8 x 5" lag bolts	8.95	
RA-6024 24" side arm for roof tower	59.50	
RA-6048 48" side arm for roof tower	76.50	
M-1330A 30' alum twr 12 sq ft/Hazer/10' mast T	1539.56	
M-1340A 40' alum twr 12 sq ft/Hazer/10' mast T	1744.56	
M-1840A 40' alum twr 16 sq ft/Hazer/10' mast T	2047.64	
M-1850A 50' alum twr 16 sq ft/Hazer/10' mast T	2292.64	
M-1860A 60' alum twr 15 sq ft/Hazer/10' mast T	3195.00	
M-1870A 70' alum twr 15 sq ft/Hazer/10' mast T	3485.00	
LR-8400 Lightning rod kit (complete)	148.95	
CW-2540 25' #4 bare copper ground wire	18.25	
CW-5040 50' #4 bare copper ground wire	36.50	
CW-7540 75' #4 bare copper ground wire	55.00	
CW-1040 100' #4 bare copper ground wire	73.00	
CW-1240 125' #4 bare copper ground wire	91.25	
CW-1540 150' #4 bare copper ground wire	109.50	
MC-10 Mast clamp; 2 required	24.95	
ES-40 4" dia x 30" earth screw	13.95	
ES-60 6" dia x 48" earth screw	23.95	
ES-80 8" dia x 66" earth screw	54.00	
GR-4400 Ground rod wire clamp	4.85	
GR-5080 8' x 5/8" ground rod	19.00	
H-2 175 lb load 12 sq ft HD aluminum Hazer	339.95	
H-3 150 lb load 8 sq ft std aluminum Hazer	245.95	
H-4 200 lb load 16 sq ft galv steel Hazer	326.95	
HR-6010 T²X plates for H-2/4/5/6	19.95	
M-1049 9' 1.92" OD galv steel mast	56.00	
MA-1049 9' 1.92" OD aluminum mast	64.95	
MA-1050 5' 1.92" OD aluminum mast	51.50	
MA-2069 9' 2.376" OD aluminum mast	96.00	
MA-5050 5' 1.33" OD aluminum mast	34.95	
ML-1800 Messenger line kit; Glen Martin towers	65.50	
ML-2500 Messenger line kit; Rohn towers	65.50	
TB-25 Thrust bearing (2 sealed bearings)	79.95	
TL-0470 Terminal lug	1.65	
VH8-50 Hazer - 50' Rohn 45	1230.00	
VH8-60 Hazer - 60' Rohn 45	1350.00	
VH8-70 Hazer - 70' Rohn 45	1455.00	
VH9-50 Hazer - 50' Rohn 55	1265.00	
VH9-60 Hazer - 60' Rohn 55	1385.00	
VH9-70 Hazer - 70' Rohn 55	1490.00	

All GLEN MARTIN items are shipped PREPAID (Glen Martin's expense) direct to you from the factory (48 states). We prefer payment in full with order, however, we will accept your credit card with the understanding that we will process the charge when we order the merchandise from the factory. This means that you may be billed before you receive your order. Please allow sufficient delivery time. Most truck lines will not unload towers, so please be sure to have enough manpower and/or equipment on hand.

GROVE (GRV)

ANT-20 No-Tenna Inside car receiving ant	$ 19.95	
BOK-16 Listener's Lawbook	9.95	
BOK-104 Antenna Factbook	9.95	

GRUNDIG (GRU)

Cosmopolit Port AM/FM/SW/LW Rcvr .....Dfv	$249.95	129.95
Yacht Boy 206 Port AM/FM/SW/LW Rcvr .....Dw	139.95	49.95
Yacht Boy 220 Port AM/FM/SW/LW Rcvr .....Dv	129.95	49.95
Yacht Boy 230 Port AM/FM/SW/LW Rcvr .... Dm	199.95	79.95
Yacht Boy 235 Port AM/FM/SW/LW Rcvr .....Dfv	159.95	79.95
Satellit 700 AC/DC/batt AM/FM/SW/LW Rcvr	699.95	499.95
Traveller II Port AM/FM/SW/LW Rcvr/clock	109.95	89.95
Yacht Boy 305 Portable AM/FM/SW/LW Rcvr	159.95	139.95
Yacht Boy 400 Portable AM/FM/SW/LW Rcvr †	269.95	199.95

HAL (HAL)

DSP-4100 HF DSP modem	1295.00	1099
P-38 HF DSP modem	395.00	349.95
PCI-4000/M Multi-mode clover unit; IBM ....m	795.00	699.95
ST-8000 HF modem .....special order	3495.00	3269

HEIL (HEI)

PRO-SET-4 Deluxe boom mic/headset/HC-4	$131.00	
PRO-SET-5 Deluxe boom mic/headset/HC-5	131.00	

HEIL - continued

	Reg	Sale
PRO-MICRO-4 Boom mic/headset/HC-4	105.00	
PRO-MICRO-5 Boom mic/headset/HC-5	105.00	
PRO-5-4 Boom mic/single headset (HC-4)	120.00	
PRO-5-5 Boom mic/single headset (HC-5)	120.00	
AD-1-I Pro-Set 8-pin adapter cord for Icom	14.99	
AD-1-K Pro-Set 8-pin adapt cord; Kenwood	14.99	
AD-1-T Pro-Set 8-pin adapt cord; Ten-Tec	14.99	
AD-1-Y Pro-Set 8-pin adapter cord; Yaesu	14.99	
AD-1-I-M Pro-Set modular adapt cord; Ico	14.99	
AD-1-K-M Pro-Set modular adapt cord; Ken	14.99	
AD-1-Y-M Pro-Set modular adapt cord; Yae	14.99	
BM-5-4 Boom mic/single headset (HC-4) ...Dwfv	64.90	44.95
BM-5-5 Boom mic/single headset (HC-5) ..Dwf	64.90	44.95
BM-5-4-I Bm mic/sgl headset; Icom (HC4) . Dmv	69.90	49.95
BM-5-4-Y Bm mic/sgl headset; Yaesu (HC4) .Dmfv	69.90	49.95
BM-5-5-I Bm mic/single headset; Icom (HC-5) ... Dfv	69.90	49.95
BM-5-5-Y Bm mic/sgl headset; Yaesu (HC-5) .....Dc	69.90	49.95
BM-10-4 Boom mic/headset (HC-4) .....Dm	71.90	49.95
BM-10-5 Boom mic/headset (HC-5) .....Dwc	71.90	49.95
BM-10-4-Y Boom mic/headset; Yaesu (HC-4) ..Dc	85.90	59.95
BM-10-5-I Boom mic/headset; Icom (HC-5) Dc	85.90	59.95
BM-10-5-Y Bm mic/headset; Yaesu (HC-5) .....Df	85.90	59.95
FS-1 Foot switch	26.95	
HS-1 Hand switch	20.75	
HC-4 DX'ers 'dream machine' mic element	29.95	
HC-5 Mic element for Icom SM-5/SM-6	29.95	
HM-10-4 Microphone with HC-4 element	63.96	
HM-10-5 Microphone with HC-5 element	63.96	
HM-10-Dual Mic w/HC-4 & HC-5 elements	112.96	
CC-1-I HM-10 cable for Icom	25.99	
CC-1-K HM-10 cable for Kenwood	25.99	
CC-1-Y HM-10 cable for Yaesu	25.99	
MA-1 Clamp and arm for HM-10	49.99	
TB-1 Table base mic stand for HM-10	19.95	
B-4 Microphone boom (HC-4) .....Dw	41.90	19.95
FL-2 Flexlite .....Dm	32.50	9.95
Boom Clip for BM-series	5.00	
Ear Pads for BM-series .....pair	5.00	
Ham Radio Handbook	12.95	

HUSTLER (HUS)

RM-80 80m CW 400w PEP resonator	$ 26.95	
RM-75 75m phone 400w PEP resonator	26.95	
RM-40 40m 400w PEP resonator	24.95	
RM-30 30m 400w PEP resonator	24.95	
RM-20 20m 400w PEP resonator	21.95	
RM-17 17m 400w PEP resonator	21.95	
RM-15 15m 400w PEP resonator	15.95	
RM-12 12m 400w PEP resonator	15.95	
RM-11 11m 400w PEP resonator	15.95	
RM-10 10m 400w PEP resonator	15.95	
RMX-W White 10m resonator w/mast .....Dw	34.95	14.95
RM-80S 80m CW 2kw PEP resonator	49.95	
RM-75S 75m phone 2kw PEP resonator	49.95	
RM-40S 40m 2kw PEP resonator	35.95	
RM-20S 20m 2kw PEP resonator	28.95	
RM-15S 15m 2kw PEP resonator	24.95	
RM-11S 11m 2kw PEP resonator	23.95	
RM-10S 10m 2kw PEP resonator	23.95	
MO-1 54" mast for fender or deck mount	31.95	
MO-2 54" mast for bumper mount	31.95	
MO-3 54" no break-over mast	23.95	
MO-4 22" mast for special applications	19.95	
VP-1 Tri-band adapter	5.95	
RSS-2 Resonator spring	9.95	
QD-2 Stainless quick disconnect	19.95	
L-14-144 12' RG-58, PL-259 to lugs	9.95	
L-14-240 20' RG-58, PL-259 to lugs	12.95	
LU-216 18' RG-58, PL-259s both ends .....Df	13.95	7.95

STAINLESS 2" MOBILE BALL MOUNTS

SSM-1 Ball & spring, cadmium hardware	$ 46.95
SSM-2 Ball, cadmium hardware	26.95

Same Day Shipping... Call Toll Free and use your Credit Card!

HUSTLER - continued

	Reg	Sale
SSM-3 Stainless steel spring	24.95	

1-1/2" MOBILE BALL MOUNTS

C-32 Chrome plated ball	$ 11.95	
C-30 Chrome plated spring	11.95	
C-29 Stainless steel spring	17.95	
BM-1 Single strap bumper mt w/C-32	21.95	

3/8-24 THREAD MOBILE MOUNTS

HLM Trunk lip mount w/swivel	$ 22.95	
HOT Hustloff trunk lip mt w/swivel	23.95	
MBM Super magnet mount w/16' coax	19.95	
MM-3 Universal mount with 17' coax	21.95	
RVM Recreational vehicle mount	20.95	
TGM-1 Trunk grove mount	12.95	
TLM Trunk lip mount	21.95	

HF ANTENNAS

4-BTV 40/20/15/10m 21' trap vertical	$166.95	119.95
5-BTV 80/40/20/15/10m 25' trap vertical	211.95	149.95
30-MTK 30m trap kit for 4-BTV/5-BTV	41.95	39.95
6-BTV 80/40/30/20/15/10m 24' trap vert	246.95	169.95

VHF BASE STATION ANTENNAS

G6-144B 2m 6 db 10' vertical antenna	$149.95	114.95
G6-270R 2m/440 6db 7.6' base station ant	208.95	159.95
G7-144 2m 7 db 15' vertical antenna	208.95	159.95
G7-220 220 MHz 7 db 10' vertical antenna	199.95	149.95
G6-440 440 MHz 6 db 7' vertical antenna	186.95	139.95

SPIRIT VHF/UHF BASE ANTENNAS (Special Order)

HSU-14448 2m unity gain base antenna ...*T	$400.00	219.95
HS3-14448 2m 3db base antenna ...*T	495.00	319.95
HD6-14448 2m 6db base antenna ...*T	833.00	629.95
HS6-43050 430-450MHz 6 db base ant ...*T	697.00	379.95
HD9-43050 430-450MHz 9 db base ant ...*Tf	882.00	499.95
HS6-12430 1.2GHz 6 db base antenna ...*T	485.00	319.95
HS9-12430 1.2GHz 9 db base antenna ...*T	766.00	419.95
HS12-12430 1.2GHz 12 db base antenna ..*T	965.00	529.95

***Specify exact frequency and height above ground that the Spirit antenna will be mounted above surrounding terrain. These antennas are drop-shipped (shipped direct to you from the Hustler factory). On these factory drop-shipments we prefer payment in full with order, however, we will accept your credit card with the understanding that we will process the charge when we order the merchandise from the factory. This means that you may be billed before you receive your drop-shipped merchandise. Shipment is FOB Mineral Wells, Texas via truck, COD for freight charges only. Freight charges will be collected upon delivery by the carrier. Please allow sufficient time for delivery on these special order antennas.**

VHF MOBILE ANTENNAS

BBL-144A 2m FM ¾" hole mt antenna, 3.4db	$ 39.95	
BBLT-144A 2m FM trunk lip mt ant, 3.4 db	47.95	42.95
CG-144 2m FM ⅜-24 ant, 7' high, 5.2 db	31.95	
CGT-144 2m FM trunk mt ant, 7' high, 5.2db	51.95	49.95
CG-220 220 FM ⅜-24 antenna, 5.2 db	31.95	
CGT-220 220 MHz 5.2 db tnk mt ant ..Δmwfv	51.95	29.95
FX-2 2m FM 3.4 db magnetic mt antenna	33.95	
FX-2B 2m FM 3.4 db black mag mt antenna	38.95	
FX-220 220 FM 3.4 db magnetic mt ant	33.95	
FX-220B 220 FM 3.4 db black mag mt ant	38.95	
FXM FX-style magnet mount w/coax ...Dv	19.95	14.95
MKR-2 Radial kit for SF-2/CG-144	20.95	
RX-2 2m FM 3.4db magnetic mount ant	24.95	
RX-220 220 FM 3.4db magnetic mt antenna	24.95	
RX-440 440 FM 5 db magnetic mt antenna	24.95	
SF-2 2m FM ⅜-24 ant, 4' high, 3.4 db	14.95	
SF-220 220 MHz ⅜-24 antenna, 3 db	14.95	
THF 140-500 MHz ¼ wave trunk mount ant	23.95	
UGM 140-500 MHz ¼ wave BNC mag mt ant	21.95	
UHT-1 140-500 MHz ¼ wave roof mt ant	14.95	

HY-GAIN (HYG)

TRI-BAND BEAMS (20-15-10m)

398S TH11DXS 11el 20/17/15/12/10m, 24' bm	1079.95	899.95

JOHN, AB9G
Sales– Milwaukee Store

Wow!– 40 Years. We must be doing something right. CAll and check out our Service.

1-800-558-0411

HY-GAIN - continued

	Reg	Sale
391S TH7DXS 7 el, 24' boom w/balun	795.95	669.95
393S TH5Mk2S 5 el, 19' boom w/balun	682.95	579.95
395S Explorer 14 4 el, 14' boom w/balun	527.95	444.95
396S QK-710 10MHz or 40m EX add-on	165.95	154.95
388S TH3Mk4 3 el, 14' boom	424.95	359.95
221S-1 TH3JRS 3 el, 12' boom, 750w PEP	315.95	269.95
390S TH2Mk3S 2 el, 6' boom	337.95	289.95
DB-1217 12/17m 14' boom beam ...m	393.95	339.95
RTP-1* Roof ant pack; TH3Mk4/HAM4/4.5' twr/cbl	1249.95	1049.95
RTP-2* Roof ant pack; TH3JR/CD45/4.5' twr/cbl	799.95	779.95
RTP-3* Roof ant pack; 64DX/CD45/4.5' twr/cbl	786.95	669.95
RTP-4* Roof ant pack; 28FM/CD45/4.5' twr/cbl	751.87	639.95

*Drop-shipped from Hy-Gain, freight collect

MONOBAND BEAMS

371S Discoverer 7-1 30m or 40m rotatable dipole	$263.95	229.95
372S Discoverer 7-2 40m 2 el 23' boom	589.95	499.95
373S Discoverer 7-3 3rd el; 372S; 35' boom	371.95	314.95
377S-1 205CA 20m 5 el, 34' boom ...T	661.95	559.95
394S 204BAS 20m 4 el, 26' boom	481.95	399.95
226S 203BAS 20m 3 el, 16' boom	289.95	249.95
376S 155B/CAS 15m 5 el, 26' boom	372.95	319.95
236S 153BAS 15m 3 el, 12' boom	178.95	159.95
375S 105B/CAS 10m 5 el, 24' boom	246.95	219.95
239S-1 103BAS 10m 3 el, 8' boom	128.95	119.95
1009AA LP-1009AA 13-30 MHz 12 el LP Δm	1295.95	1049.95
1010AA LP-1010AA 10-30 MHz 14 el LP Δm	1872.95	1499.95

MULTI-BAND VERTICALS

188S DX-88 80-10m 8-band 25' vert	$339.95	289.95
189S GRK-88 Ground radial kit	79.95	74.95
190S RRK-88 Roof radial kit	97.95	89.95
191S 160MK-88 160m kit for 188S	178.95	159.95
DX-77 40-10m 750w 7-band 29' no radials vert	412.95	349.95
182S 18HTS Hy-Tower 5-band, 50' high ...T	739.95	629.95
LC-160Q 160m loading coil for Hy-Tower	93.33	84.95
385S 14AVQ/WBS 40/20/15/10m, 18'	159.95	144.95
384S 12AVQS 20/15/10m, 13.5' high	111.95	99.95
184 14RMQ Roof kit-12/14AVQ,18AVT Δmwfcv	69.95	59.95
193S 18VS 80-10m trapless vert, 18' high	74.95	69.95

MULTI-BAND DOUBLETS

380S 2BDQS 80/40m 101' trap doublet	$117.95	109.95
383S 5BDQS 80/40/20/15/10m 94' trap Δmwfv	235.95	179.95
381S 19PD 80-10m 233' 1-band port dipole	263.95	224.95

VHF/UHF BASE STATION ANTENNAS

343S 66DX 6m 6 el beam, 24' boom	$226.95	199.95
230S-1 64DX 6m 4 el beam, 12' boom	119.95	109.95
232S 215DX 2m 15 el beam, 28' boom Δmwfv	206.95	159.95
214S-1 214FM 2m 14 el beam, 15' boom	81.95	
208S-1 28FM 2m 8 el beam, 12' boom	71.95	
205S-1 25FM 2m 5 el beam, 6' boom	51.95	
203S-1 23FM 2m 3 el beam, 3.5' boom	41.95	
231S 70-31DX 430 31 el beam, 24' boom	199.95	179.95
V-6R 6m 3db deluxe base antenna	189.67	169.95
338 GPG2B 2m ground plane ant	42.95	
331S V-42R 2m/440 type N base ant	154.95	139.95
335S-1 V-2R 2m ground plane ant	99.95	92.95
V-3R 220 ground plane antenna	99.43	92.95
337S-1 V-4R 440 ground plane ant	97.95	89.95

OSCAR LINK ANTENNAS

216S 216SAT 2m 16el 145.9MHz bm .Δmwfv	$213.95	169.95
215S 7030SAT 435 MHz 30 el beam ..Δmwfv	206.95	159.95
217 60" x 1½" fiberglass crossboom ..Δmwfv	71.95	59.95
218S OSCAR Link Complete Oscar ant sys	477.95	399.95

ACCESSORIES

155 CI Center insulator for doublets	$ 12.95	
156 EI 7" doublet end insulators ...pair	6.95	
157S CIC Dipole center insulator w/SO-239	23.95	
242S BN-86 80-10m balun	36.95	
243S BN-4000B 4kw PEP 160-10m beam balun	93.95	89.95
244S BN-4000D 4kw PEP 160-10m dipole balun	93.95	89.95
245S BN-4000N 4kw PEP 80-10 N beam baln .Δmwfv	103.95	79.95
2400-155 62400155 Contester bm mic/headset	113.95	99.95

HY-GAIN CRANK-UP TOWERS

129 HG-37SS 37' self-supporting tower ...T	1526.95	1259
125-1 HG-52SS 52' self-supporting tower ..T	2565.95	2119
130-1 HG-54HD 54' hvy duty self-support ..T	3109.95	2569

HY-GAIN - continued

	Reg	Sale
131-1 HG-70HD 70' hvy duty self-support ..T	4485.95	369
116 HG-5 5' 2" OD .120 wall steel mast	79.95	
117 HG-10 10' 2" OD .120 wall steel mast Tw	102.95	49
118 HG-15 15' 2" OD .120 wall steel mast .T	165.95	154
121B HG-TBT Thrust bearing w/sleeve	86.95	79
122 HG-COA Coax arm*, tower legs 1"-1½"	23.95	

*One required per section

140 HG-TOA Tilt-over 'gin-pole' ...T	727.95	619

Hy-Gain Crank-Up Towers are drop-shipped (shipped direct to yo from the Hy-Gain factory). On these drop-shipments we prefe payment in full with order, however, we will accept your credit car with the understanding that we will process the charge when we order the merchandise. This means that you may be billed befor you receive your drop-shipped merchandise. Shipment is FO Lincoln, Nebraska via truck, COD for freight charges only. Freigh charges will be collected upon delivery by the carrier. Please allov sufficient delivery time. Most truck lines will not unload the tower so please be sure to have enough manpower and/or equipment or hand.

HY-GAIN ANTENNA ROTORS

305 AR-40 Solid state light duty rotor	$256.95	229.95
302 CD-45-II Medium duty rotor	361.95	329.95
302-2 CD-45-II 220v medium duty rotor	361.95	329.95
304 HAM IV Heavy duty rotor	509.95	439.95
304D Pathfinder HAM IV digl HD rotor ....Dwf	749.99	569.95
307 Pathfinder HAM V digital HD rotor	881.95	749.95
303 T²X Tailtwister extra heavy duty rotor	607.95	529.95
303-2 T²X 220v Tailtwister extra HD rotor	607.95	529.95
303D Pathfinder Tailtwister dig extra HD rotor	951.95	819.95
300 HDR-300/A Deluxe digital hvy duty rotor	1198.95	999.95
306 Digital rotor control for HAM IV/T²X	607.95	524.95

OPTIONAL ACCESSORIES FOR ROTORS

51467-10 MSHD Lwr mast support; HAM IV/T²X	$ 79.95	
51472-10 MSLD Lwr mast support; CD45II/AR40	27.95	
50559-10 TSP-1 Tower spacing kit ....Δmwfv	22.95	12.95

See BELDEN for rotor cable

ICOM (ICO)

IC-781 Xcv/Rcv/ps/auto tune/scope spec ord	8000.00	6599.95
FL-103 2.8 KHz SSB filter	98.00	
UT-36 Voice synthesizer	59.00	
IC-775DSP Xcvr/ps/keyer/auto tuner/IF-DSP	4760.00	3899.95

$100 rebate from Icom - IC-775DSP thru 12/31/96

CR-282 High stability crystal unit	134.00	124.95
FL-53A 250 Hz CW filter (2nd IF)	196.00	179.95
FL-101 250 Hz CW filter (1st IF)	106.00	99.95
FL-102 6 KHz AM filter	75.00	
FL-222 1.9 KHz 455 KHz IF SSB filter	199.00	179.95
FL-223 1.9 KHz 9 MHz IF SSB filter	84.00	
FL-232 350 Hz CW/RTTY filter	90.00	
HM-36 Scanning hand mic	59.00	
MB-19 Rack mounting handles	59.00	
SM-6 Desk microphone	102.00	99.95
SM-8 2-connector desk mic/up/down scan	160.00	144.95
SP-20 Speaker w/audio filter	248.00	219.95
SP-21 External speaker	110.00	99.95
UT-66 Voice synthesizer	66.00	
IC-738 Xcv/SW Rcv/tune/kyer/mic/VOX Dmwfcv	1625.00	1369.95
PS-85 Power supply	325.00	279.95
AH-3 Automatic antenna tuner	653.00	549.95
AH-2B Bumper mt & whip	303.00	259.95
AT-150 100w 9-band automatic ant tuner	638.00	529.95
CR-282 High stability crystal unit	134.00	124.95
FL-52A 500 Hz CW filter (2nd IF)	196.00	179.95
FL-53A 250 Hz CW filter (2nd IF)	196.00	179.95
FL-100 500 Hz CW filter (1st IF)	106.00	99.95
FL-101 250 Hz CW filter (1st IF)	106.00	99.95
HM-36 Extra scanning hand mic	59.00	
MB-49 Mobile mounting bracket	47.00	
SM-6 Desk microphone	102.00	99.95
SP-3 External speaker	112.00	99.95
SP-7 Small external speaker	75.00	
SP-20 Speaker w/audio filter	248.00	219.95
SP-21 External speaker	110.00	99.95
UT-30 Tone encoder	44.00	
IC-728 Xcvr/SW Rcvr w/mic ...Dmwfv	1453.00	1199.95
PS-85 Power supply	325.00	279.95
AH-3 Automatic antenna tuner	653.00	549.95
AH-2B Bumper mt & whip	303.00	259.95

ICOM - continued

	Reg	Sale
AT-160 Automatic antenna tuner .....Dmwf	324.00	249.95
CR-64 High stability oscillator crystal	125.00	114.95
FL-100 500 Hz CW filter	106.00	99.95
FL-101 250 Hz CW filter	106.00	99.95
MB-5 Mobile mount	47.00	
SM-6 Desk microphone	102.00	99.95
SP-3 External speaker	112.00	99.95
SP-7 Small external speaker	75.00	
SP-20 Speaker w/audio filter	248.00	219.95
UI-7 AM/FM module for IC-728	95.00	
UT-30 Tone encoder	44.00	
IC-707 Xcvr/SW Rcvr w/mic	899.00	759.95
PS-85 Power supply	325.00	279.95
AH-3 Automatic antenna tuner	653.00	549.95
AH-2B Bumper mt & whip	303.00	259.95
CR-338 High stability crystal unit	65.00	
FL-52A 500 Hz CW filter (2nd IF)	196.00	179.95
FL-53A 250 Hz CW filter (2nd IF)	196.00	179.95
MB-5 Mobile mount	47.00	
SM-6 Desk microphone	102.00	99.95
SP-3 External speaker	112.00	99.95
SP-7 Small external speaker	75.00	
SP-20 Speaker w/audio filter	248.00	219.95
SP-21 External speaker	110.00	99.95
UI-9 FM module	90.00	84.95
UT-30 Tone encoder	44.00	
IC-706 Mini Xcvr/SW Rcvr w/6 & 2m .....†	1560.00	1219.95
PS-85 Power supply	325.00	279.95
AT-160 Automatic antenna tuner .....Dmwf	324.00	249.95
OPC-599 7+8-pin to 13-pin adapter	48.00	
AT-180 Automatic antenna tuner; HF+6m	599.00	499.95
OPC-598 23' extension cable for AT-180	58.00	
FL-100 500 Hz CW filter	106.00	99.95
FL-101 250 Hz CW filter	106.00	99.95
FL-103 2.8 KHz SSB filter	98.00	
FL-223 1.9 KHz 9 MHz IF SSB filter	84.00	
FL-232 350 Hz CW/RTTY filter	90.00	
CR-502 High stability oscillator crystal	76.00	
Suggest dealer installation of CR-502 ($25.50)		
HM-77A TTP microphone	121.00	114.95
MB-62 Mounting bracket for main unit	20.00	
MB-63 Mounting bracket for control panel	14.00	
OPC-581 11.5' separation cable	48.00	
OPC-589 8-pin to jack adapter	28.00	
OPC-596 Accessory plug w/wires	30.14	
OPC-599 7+8-pin to 13-pin adapter	48.00	
UT-102 Voice synthesizer	59.00	
IC-2KL 160-15m/WARC solid state linear	2981.00	2459.95
IC-4KL 1kw output solid state linear	9900.00	7999.95
OPC-118 Adapter; 2KL/4KL; 725/735/765	20.00	
AH-2A Antenna tuning system only ....Δmwcv	760.00	489.95
AH-2B Bumper mt & whip	303.00	259.95
OPC-137 Adapt; AH-2/2A - 751A/745 .....Dmf	20.00	16.95
AT-150 100w 9-band automatic ant tuner	638.00	529.95
OPC-137 Adapt; AT-150 - 751A/745 .....Dmf	20.00	16.95
AT-500 500w 9-band automatic ant tuner	1095.00	899.95
OPC-118 Adapter; AT-500; 725/735/765/781	20.00	

SHORTWAVE RECEIVERS

R-1* .1MHz-1.3GHz AM/FM handheld Rcvr	$635.00	529.95
R-1-15 .1MHz-1.3GHz AM/FM hand Rcvr/cell blkd	500.00	429.95
HP-4 Lightweight headphones	23.00	
Note: R-1/R-1-15 use 'W'-series HT accessories		
R-71A 100 KHz-30MHz dig keyboard Rcvr ..Dmf	1584.00	1199.95
CK-70 (EX-299) 12v DC option	33.00	
CR-64 High stability oscillator crystal	125.00	114.95
EX-257 FM unit	87.00	
EX-310 Voice synthesizer	85.00	
FL-32A 500 Hz CW filter	101.00	99.95
FL-44A SSB filter .....Dmf	227.00	199.95
FL-63A 250 Hz CW filter	97.00	
MB-12 Mobile mount	47.00	
RC-11 Infrared wireless rem control Δmfcv	116.00	109.95
SP-3 External speaker	112.00	99.95
R-72A 100 KHz - 30 MHz SW Rcvr .....Δmwfv	1200.00	899.95
CP-11 Cig cord w/noise filter	32.00	
CR-64 High stability oscillator crystal	125.00	114.95
FL-100 500 Hz CW filter	106.00	99.95
FL-101 250 Hz CW filter	106.00	99.95

ICOM - continued

	Reg	Sale
MB-5 Mobile mount	47.00	
SP-3 External speaker	112.00	99.95
SP-7 Small external speaker	75.00	
SP-20 Speaker w/audio filter	248.00	219.95
UI-8 FM unit .....Δmwv	95.00	79.95
UR-1 Receiver protector unit .....Δmv	33.00	29.95
UT-36 Voice synthesizer	59.00	
R-100* .1MHz-1.856GHz AM/FM 12v Rcvr	935.00	789.95
R-100-11 .1MHz-1.856GHz am/fm 12v Rcv/cell blkd	801.00	669.95
AH-7000 25-1000 MHz discone ant w/coax	165.00	149.95
CP-11 Cig cord w/noise filter	32.00	
HP-4 Lightweight headphones	23.00	
R-7000* 25 MHz - 2 GHz scanning receiver	2000.00	1679.95
AH-7000 25-1000 MHz discone ant w/coax	165.00	149.95
CK-70 (EX-299) 12v DC option	33.00	
EX-310 Voice synthesizer	85.00	
MB-12 Mobile mount	47.00	
RC-12 Infrared wireless remote control	110.00	104.95
SP-3 External speaker	112.00	99.95
TV-R7000 ATV unit for R-7000	297.00	249.95
R-8500 .1MHz - 2GHz receiver/cell blocked	2400.00	1999.95
R-8500-03* .1MHz - 2GHz receiver	2400.00	1999.95
AH-7000 25-1000 MHz discone ant w/coax	165.00	149.95
CR-293 High stability xtal unit	304.00	274.95
FL-52A 500 Hz CW filter	196.00	179.95
MB-12 Mobile mount	47.00	
SP-7 Small external speaker	75.00	
SP-21 External speaker	110.00	99.95
TV-R7100 TV/FM adapter; R-8500/R-7100	341.00	289.95
UT-102 Voice synthesizer	59.00	
R-9000* .1-1999.8MHz Rcvr/spectrum scope	7508.00	6299.95

*United States & state government agencies or a political subdivision thereof and communications utility companies and their legal agents **ONLY** may purchase unblocked models of R-1, R-100, R-7000, R-8500 and/or R-9000 for official government or communications utility company use only. Mail or FAX purchase order to AES.

SP-20 Speaker w/audio filter	248.00	219.95
UT-36 Voice synthesizer	59.00	

2m TRANSCEIVERS

IC-2000H 50w 2m FM Xcvr w/TTP mic	$343.00	289.95
OPC-347 23' DC power cable	37.00	
OPC-589 8-pin to jack adapter	28.00	
UT-85 Tone squelch unit	61.00	
UT-101 DTMF unit	22.00	
IC-281H 50w 2m FM Xcvr/TTP/9600 ...Dmwfv	500.00	379.95
MB-17A Quick release bracket	39.00	
OPC-347 23' DC power cable	37.00	
OPC-440 Mic extension cable	68.00	
OPC-589 8-pin to jack adapter	28.00	
UT-66 Voice synthesizer	66.00	
UT-85 Tone squelch unit	61.00	
IC-275H 100w 2m FM/SSB/CW Xcvr .....Dm	2100.00	1699.95
PS-85 Power supply	325.00	279.95
AG-25 Mast mounted GaSFET preamp	176.00	159.95
CR-64 High stability oscillator crystal	125.00	114.95
FL-83 CW filter .....Δmwfv	120.00	99.95
UT-34 Tone squelch unit	75.00	
UT-36 Voice synthesizer	59.00	
UT-55 DTMF tone enc/dec; 2330A/2340 .Δmf	55.00	
UT-67 Tone squelch unit; IC-2330A ....Δmwfv	99.00	59.95
IC-2350H 50w 2m/35w 440 FM Xcvr/TTP mic	600.00	499.95
MB-17A Quick release bracket	39.00	
OPC-347 23' DC power cable	37.00	
OPC-440 Mic extension cable	68.00	
OPC-589 8-pin to jack adapter	28.00	
UT-101 Pager/code squelch	22.00	
UT-89 Tone scan/decode unit	88.00	
IC-2700H LTD 50w 2m/35w 440FM/HM90A mic	733.00	619.95
HM-90A wireless mic w/IC-2700H LTD! Limited Time!		
IC-2700H 50w 2m/35w 440 FM Xcvr/reg mic	653.00	549.95
BC-96 Microphone holder	34.00	
EX-1513 Infrared sub receiver	22.00	
HM-90A Wireless microphone	167.00	149.95
MB-17A Quick release bracket	39.00	
MB-58 Remote controller bracket	31.00	
OPC-347 23' DC power cable	37.00	

ICOM - continued

	Reg	Sale
OPC-438 11.5' separation kit	33.00	
OPC-439 23' separation kit	48.00	
OPC-440 Mic extension cable	68.00	
OPC-441 Speaker extension cable	26.00	
OPC-589 8-pin to jack adapter	28.00	
UT-66 Voice synthesizer	66.00	
UT-84 Tone squelch unit	88.00	
IC-2710H 50w 2m/35w 440 FM Xcvr/TTP mic	856.00	719.95
BC-96 Microphone holder	34.00	
OPC-288 DC power cable for BC-96	15.00	
CP-13 Cig cable w/filter	32.00	
CS-2710 Programming software	28.00	
EX-1513 Infrared sub receiver	22.00	
EX-1759 Infrared receiver	88.00	
HM-90A Wireless microphone	167.00	149.95
HS-62 Flexible mobile mic	56.00	
MB-58 Remote controller bracket	31.00	
MB-65 Remote platform	28.00	
OPC-347 23' DC power cable	37.00	
OPC-440 Mic extension cable	68.00	
OPC-441 Speaker extension cable	26.00	
OPC-589 8-pin to jack adapter	28.00	
OPC-600 11.5' separation kit	36.00	
OPC-601 23' separation kit	48.00	
OPC-646 Cloning cable	71.00	
OPC-647 8.2' mic extension cable	43.00	
UT-49 DTMF decoder unit	59.00	
UT-104 Tone squelch unit	64.00	
IC-820H 2m/430 SB/FM sat Xcv/9600 Δmwfv	1734.00	1299.95
$50 rebate from Icom - IC-820H thru 12/31/96		
IC-821H 2m/430 SSB/FM sat Xcvr/9600/mic	2040.00	1699.95
PS-85 Power supply	325.00	279.95
AG-25 2m mast mounted GaSFET preamp	176.00	159.95
AG-35 430 MHz mast mounted preamp	182.00	164.95
CR-293 High stability xtal unit	304.00	274.95
FL-132 500 Hz CW filter	106.00	99.95
HM-12 Scan hand microphone	59.00	
MB-5 Mobile mount	47.00	
SM-6 Desk microphone	102.00	99.95
SP-3 External speaker	112.00	99.95
SP-7 Small external speaker	75.00	
SP-20 Speaker w/audio filter	248.00	219.95
SP-21 External speaker	110.00	99.95
UT-36 Voice synthesizer; 820H	59.00	
UT-50 Tone decoder	59.00	
UT-84 Tone squelch unit; 821H	88.00	
UT-102 Voice synthesizer; 821H	59.00	
IC-Delta-100H 2m/440/1.2 GHz FM Xcvr/TTP	1370.00	1149.95
MB-50 Remote controller bracket	23.00	
OPC-332 11.5' separation kit	24.00	
OPC-333 23' separation kit	30.00	
OPC-335 16.4' speaker cable	32.00	
OPC-347 23' DC power cable	37.00	
UT-66 Voice synthesizer	66.00	
UT-75 DTMF decoder unit	55.00	
UT-76 Tone squelch unit	132.00	119.95
AH-32 2m/440 dual band mob ant ...Δmwfcv	66.00	49.95
AHB-32 Tnk lip mt, coax; AH-32 .....Δmwf	61.00	19.95

Accessories for IC-2AT

AD-12 External pwr adapter; 2/4GAT/32AT	$ 34.00	
BA-10 Bottom slide cap	11.00	
BC-16U/BM-112U Wall cgr; BP-5A/7/8 only	32.00	
BC-25U Extra wall charger; BP-3 only	28.00	
BC-35 Drop-in rapid charger; all batteries	120.00	109.95
BP-2 425ma 7.2v long life batt; all HTs	68.00	
BP-3 250ma 8.4v battery; all HTs	52.00	
BP-4 Alkaline battery case; all HTs	28.00	
BP-5 425ma 10.8v high power batt; all HTs	87.00	
BP-5A 425 ma 10.8v direct charge batt; all	87.00	
BP-7 425ma 13.5v 5w batt; deluxe HTs only	97.00	
BP-8 800ma 8.4v long life batt; all HTs	96.00	
BP-70 Extra 270ma 13.2v batt; 2GAT/32AT	90.00	

AES® Gift Certificates

Information next to Order Blank

ICOM - continued

	Reg	Sale
CP-1 Cig cgr; BP-3/7/8//DC cord; dlx HTs	21.00	
CP-10 Battery separation cable w/clip	41.00	
CP-11 Cig cord w/noise filter; dlx HTs	32.00	
DC-1 DC operation module; std HTs	32.00	
FA-2 Extra 2m flexible antenna	23.00	
FA-140B Extra 2m flex ant for IC-2GAT	23.00	
FA-1443B Extra 2m/440 dual band flex ant	23.00	
HH-SS Handheld shoulder strap	23.00	
HM-9 Speaker/mic; all HTs	58.00	
HM-46 Slim-line speaker/mic	47.00	
HS-10 Boom mic/headset	55.00	
HS-10SA VOX unit (deluxe HTs only)	55.00	
HS-10SB PTT switchbox	55.00	
HS-51 Headset w/VOX	77.00	
MB-16 Window/car door mount .....Δmwfv	32.00	29.95
MB-16D Mobile mtg bkt for all HTs ...Δmwfcv	32.00	29.95
MB-24 Window/car door mt; 2GAT .....Δwf	32.00	14.95
UT-40 Tone squelch decoder; 2GAT/32AT	66.00	

Accessories for P-series hand-helds

BC-74/BC-110A Extra wall cgr; BP-111-114	$ 32.00	
BP-111 Extra 7.2v 400ma 1.5w battery	68.00	
BP-113 7.2v 1200ma 1.5w battery	101.00	94.95
BP-114 12v 400ma 5w battery .....Dwfcv	123.00	69.95
CP-12 Cig lighter cable w/filter	29.00	
HM-9 Speaker/microphone	47.00	
HM-46 Slim-line microphone	47.00	
HM-54 Heavy duty speaker/mic	66.00	
HS-51 Headset w/VOX	77.00	
LC-91 Vinyl case; BP-111 .....Dmf	25.00	9.95
MB-30 Mobile/wall bracket	32.00	
OPC-254 Mini DC power cable	11.00	
UT-49 DTMF decoder unit	59.00	

Accessories for IC-2iA

AD-26 Batt pack adapt; rapid charger Δmwfv	$ 14.00	12.95
BP-120 AA alkaline battery case	28.00	
BP-121 7.2v 400ma battery .....Dv	68.00	39.95
BP-122 7.2v 700ma battery .....Dwv	75.00	39.95
BP-123 7.2v 1200ma battery .....Dfv	101.00	59.95
BP-124 12v 400ma battery .....Dmf	128.00	64.95
HM-9L Speaker/mic .....Δmwfv	47.00	39.95
LC-83 Vinyl case for BP-121 .....Df	28.00	14.95
LC-84 Vinyl case for BP-120/122 .....Dm	28.00	14.95
LC-85 Vinyl case for BP-123/124 .....Df	28.00	14.95
IC-W31A 2m/440HT/batt/cgr/TT/tone sq .Dmwf	545.00	349.95
IC-W31A/HP 5w 2m/440HT/batt/cgr/TT/tone Dmwfv	568.00	369.95
AD-51 Batt pack adapter for rapid charger	11.00	
BC-119-11 Desk charger (adapter required)	82.00	
BC-74/BC-110A Extra wall cgr; BP-111-114	32.00	
BC-79A Desk cgr (adapter required) ...Dwfv	105.00	89.95
BP-170 Battery case	28.00	
BP-171 4.8v 700ma battery .....†	66.00	39.95
BP-172 4.8v 950ma battery	73.00	
BP-173 9.6v 600ma battery	120.00	109.95
BP-180 7.2v 600ma battery	66.00	
CP-12 Cig lighter cable w/filter	29.00	
CP-12L Right angle cig cable w/filter	29.00	
HM-46 Slim-line speaker/mic	47.00	
HM-46L Slim-line spkr/mic, rt angle plug	47.00	
HM-54 Hvy duty spkr/mic	66.00	
HM-75A Remote control microphone	77.00	
HS-85 Headset	84.00	
LC-123 Vinyl case; Z1A w/BP-170/171/172	30.00	
LC-124 Vinyl case; IC-Z1A w/BP-173	30.00	
LC-128 Vinyl case; IC-W31A	30.00	
MB-30 Mobile/wall bracket	32.00	
OPC-254L Right angle mini DC pwr cable	11.00	
SP-13 Earphone	3.00	
UT-93 Tone squelch; early IC-Z1A ..Δmwfcv	66.00	49.95
UT-94 Tone squelch unit; early IC-W31A	44.00	

EDDIE, KD4RAZ
Sales – Orlando Store

Se habla español
AES® ORLANDO
1-407-898-1166
1-800-327-1917

ICOM - continued

	Reg	Sale
IC-T22A 2m FM HT/batt/cgr/TTP	275.00	229.95
IC-T22A/HP 5w 2m HT/batt/cgr/TTP ...Dmwfv	334.00	259.95
IC-T7A 2m/440 FM HT/batt/cgr/TTP	359.00	299.95
IC-W32A 5w 2m/440 FM HT/batt/cgr/TTP/tone	479.00	399.95
AD-56 Batt pack adapter for rapid charger	14.00	
BC-119-11 Desk charger (adapter required)	82.00	
BC-74/BC-110A Extra wall cgr; BP-111-114	32.00	
BP-170 Battery case	28.00	
BP-171 4.8v 700ma battery .....Δmwfcv	66.00	39.95
BP-172 4.8v 950ma battery	73.00	
BP-173 9.6v 600ma battery	120.00	109.95
BP-180 7.2v 600ma battery	66.00	
CP-12 Cig lighter cable w/filter	29.00	
CP-12L Right angle cig cable w/filter	29.00	
CS-T7 DOS software for IC-T7A	28.00	
CSW-T7 Windows software w/cable; T7A	56.00	
CSW-32 Programming software; W32A	28.00	
HM-46 Slim-line speaker/mic	47.00	
HM-46L Slim-line spkr/mic, rt angle plug	47.00	
HM-54 Hvy duty spkr/mic	66.00	
HM-75A Remote control microphone	77.00	
HS-85 Headset	84.00	
LC-125 Vinyl case; T22A w/BP170/171/172	30.00	
LC-126 Vinyl case; T22A w/BP173	30.00	
LC-136 Vinyl case; T7A w/BP170/171/172	30.00	
LC-137 Vinyl case; T7A w/BP173/180	30.00	
MB-30 Mobile/wall bracket	32.00	
OPC-254 Mini DC power cable	11.00	
OPC-254L Right angle mini DC pwr cable	11.00	
OPC-478 PC to radio cloning cbl; T7A/W32A	46.00	
SP-13 Earphone	3.00	
UT-94 Tone squelch unit; T22A	44.00	
IC-V21AT 2m/220 FM HT/batt/cgr/TTP	550.00	469.95
AD-25 Battery charger adapter	50.00	
AD-28 Batt pack adapter for rapid charger	14.00	
BC-119-11 Desk charger (adapter required)	82.00	
BC-77/BC-105A Extra wall charger	32.00	
BP-130 Battery case	28.00	
BP-131 900ma 7.2v battery/mic	106.00	99.95
BP-132 600ma 12v battery/mic	120.00	109.95
BP-157 900ma 7.2v battery	68.00	
CP-13 Cig cable w/filter	32.00	
CP-13L Right angle cig cable w/filter	32.00	
HM-9 Speaker/microphone	47.00	
HM-46 Slim-line speaker/mic	47.00	
HM-46L Slim-line spkr/mic, rt angle plug	47.00	
HM-54 Hvy duty spkr/mic	66.00	
HM-55A Speaker/mic w/TTP .....Δmwfcv	127.00	99.95
HM-75 Speaker/mic w/remote control	77.00	
HS-51 Headset w/VOX	77.00	
LC-103 Vinyl case; W21A/BP130/131 .....Dv	30.00	19.95
LC-104 Vinyl case; W21A w/BP-132 ..Dmwc	30.00	19.95
LC-105 Case; W21AT w/BP-130/131 .Dmwfv	30.00	
LC-106 Vinyl case; W21AT w/BP-132 Δmwf	30.00	26.95
MB-30 Mobile/wall bracket	32.00	
OPC-288 Mini DC power cable	15.00	
OPC-288L Right angle mini DC pwr cable	15.00	

Accessories for IC-2SAT/2SRA/24AT/W2A

AD-14 BC-74 charge adapter	$ 34.00	
AH-20 Replacement rcv ant for IC-2SRA	22.00	
BA-11 Bottom cap	9.00	
BA-12 Drop-in charger adapter	23.00	
BC-72 Rapid desk charger	149.00	134.95
BC-74/BC-110A Extra wall cgr; 24AT/S-series	32.00	
BC-77/BC-105A Extra wall cgr; W2A/2SRA	32.00	
BP-81 7.2v 110ma battery .....Δmwfv	61.00	44.95
BP-82 7.2v 300ma battery .....Δmwfcv	66.00	49.95
BP-83 7.2v 600ma battery	72.00	69.95
BP-84 7.2v 1000ma battery	96.00	
BP-85 12v 340ma 5w battery	124.00	112.95
BP-90 AA battery case	28.00	
CP-12 Cig lighter cable w/filter	29.00	
CP-13 Cig cable w/filter; W2A/2SRA	32.00	
HM-9 Speaker/microphone	47.00	
HM-46 Slim-line speaker/mic	47.00	
HM-54 Hvy duty spkr/mic; not for 2G/W2A	66.00	
HM-65 Slim-line spkr/mic; W2A/2SRA	61.00	
HS-51 Headset w/VOX	77.00	

ICOM - continued

	Reg	Sale
HS-60 VOX headset; W2A/2SRA .....Dmc	88.00	39
LC-63 Vinyl case; 24AT/BP-81/BA-11 .....Dm	17.00	4
LC-71 Case; W2A/2SRA w/BP81/BA11 .Dmwv	28.00	6
MB-22 Alligator belt/pocket clip	12.00	
MB-25 Stainless wall storage unit ...Δmwfcv	33.00	24
MB-30 Mobile/wall bracket	32.00	
OPC-254 Mini DC power cable	11.00	
OPC-288 Mini DC pwr cord; W2A/2SRA	15.00	
UT-49 DTMF decoder unit for S-series	59.00	
UT-50 Tone decoder	59.00	
UT-51 Programmable tone encoder unit	66.00	
IC-2GXAT/HP 7w 2m FM HT/batt/cgr/TTP	350.00	299
AD-25 Battery charger adapter	50.00	
AD-28 Batt pack adapter for rapid charger	14.00	
BC-119-11 Desk charger (adapter required)	82.00	
BC-77/BC-105A Extra wall charger	32.00	
BP-130A Battery case .....†	28.00	19
BP-132A 600ma 12v battery/mic	120.00	109
BP-157A 900ma 7.2v battery	68.00	
BP-160 700ma 7.2v battery .....Δmwfcv	53.00	19
BP-174 600ma 12v battery	78.00	
CP-13 Cig cable w/filter	32.00	
CP-13L Right angle cig cable w/filter	32.00	
HM-46 Slim-line speaker/mic	47.00	
HM-46L Slim-line spkr/mic, rt angle plug	47.00	
HM-54 Heavy duty spkr/mic	66.00	
HM-55A Speaker/mic w/TTP .....Δmwfcv	127.00	99
HS-51 Headset w/VOX	77.00	
LC-116 Carrying case; BP-130A/157A/160	30.00	
LC-117 Carrying case for BP-132A	30.00	
MB-30 Mobile/wall bracket	32.00	
OPC-288 Mini DC power cable	15.00	
OPC-288L Right angle mini DC pwr cable	15.00	
SP-13 Earphone	3.00	
UT-49 DTMF decoder unit	59.00	
IC-Delta-1A 2m/440/1.2 FM HT/batt/cgr/TTP	720.00	599
AD-22 External battery charge adapter	50.00	
AD-27 Batt pack adapter for rapid charger	14.00	
BC-119-11 Desk charger (adapter required)	82.00	
BP-100 Battery holder	28.00	
BP-101 700ma 7.2v battery	75.00	69
BP-102 1200ma 7.2v battery	103.00	94
BP-103 600ma 12v battery	121.00	109
CP-13 Cig cable w/filter	32.00	
CP-13L Right angle cig cable w/filter	32.00	
HM-46 Slim-line speaker/mic	47.00	
HM-46L Slim-line spkr/mic, rt angle plug	47.00	
LC-81 Vinyl case for BP-100/101/102	28.00	
LC-82 Vinyl case for BP-103	28.00	
OPC-288 Mini DC ppower cable	15.00	
OPC-288L Right angle mini DC pwr cable	15.00	
UT-70 Tone encoder/decoder	160.00	144
IC-T21A 2m FM HT/batt/cgr/TTP	279.00	229
AD-44 Batt pack adapter for rapid charger	14.00	
BC-119-11 Desk charger (adapter required)	82.00	
BC-74/BC-110A Extra wall charger	32.00	
BP-151 800ma 6v battery	46.00	
BP-152 1100ma 6v battery .....Δmwfcv	53.00	39
BP-153 600ma 12v battery	120.00	109
BP-159 Battery case	28.00	
CP-12 Cig lighter cable w/filter	29.00	
CP-12L Right angle cig cable w/filter	29.00	
HM-46 Slim-line speaker/mic	47.00	
HM-46L Slim-line spkr/mic, rt angle plug	47.00	
HM-54 Heavy duty spkr/mic	66.00	
HM-55A Speaker/mic w/TTP .....Δmwfcv	127.00	99
HM-75A Remote control microphone	77.00	
HS-51 Headset w/VOX	77.00	
LC-109 Vinyl case for BP-151/159	30.00	
LC-110 Vinyl case for BP-153 .....Δmwfv	30.00	24
LC-111 Vinyl case for BP-152	30.00	
MB-30 Mobile/wall bracket	32.00	
OPC-254 Mini DC power cable	11.00	
OPC-254L Right angle mini DC pwr cable	11.00	
SP-13 Earphone	3.00	
RP-1520 25w 2m FM repeater	3025.00	2499

Repeaters require service dept. set-up; $68 minimum

ICOM - continued

	Reg	Sale
220 MHz TRANSCEIVERS		
IC-03AT 2.5w 220 HT/batt/cgr/TTP .....Dmwv	$400.00	339.95
IC-03AT uses same accessories as IC-02AT/HP		
IC-38A 25w 220 FM Xcvr w/TTP mic ...Dmwfv	496.00	419.95
HM-56A Extra autodial TTP mic	138.00	124.95
RP-2210 25w 220 MHz FM repeater .....Δv	2700.00	2199.95
Repeaters require service dept. set-up; $68 minimum		
430/440 MHz TRANSCEIVERS		
IC-481H 35w 440 FM Xcvr/TTP/9600 baud	$665.00	559.95
IC-4GXAT 440 FM HT/batt/cgr/TTP	339.00	289.95
IC-T41A 440 FM HT/batt/cgr/TTP .....Dmwv	360.00	249.95
IC-T42A 440 FM HT/batt/cgr/TTP	359.00	299.95
IC-4GXAT uses same accessories as IC-2GXAT		
IC-T41A uses same accessories as IC-T21A		
IC-T42A uses same accessories as IC-T22A		
IC-475H 75w 430-450 FM/SSB/CW Xcv Dmwfv	2300.00	1699.95
PS-85 Power supply	325.00	279.95
AG-35 Mast mounted preamp	182.00	164.95
CR-64 High stability oscillator crystal	125.00	114.95
FL-32A CW filter	101.00	99.95
UT-34 Tone squelch unit	75.00	
UT-36 Voice synthesizer	59.00	
RP-4020/50w 50w 440MHz FM repeater Δmw	3200.00	2399.95
Repeaters require service dept. set-up; $68 minimum		
1.2 GHz EQUIPMENT		
RP-1220 10w 1.2 GHz FM repeater .....Δmw	3450.00	2599.95
Repeaters require service dept. set-up; $68 minimum		
ACCESSORIES FOR IC-901		
MB-21 Bracket for controller unit .....Δm	$ 21.00	15.95
MB-31 Mounting bracket for band units ..Δw	15.00	12.95
OPC-189 Fiber optic cable 65' extension ..Dm	83.00	69.95
UX-S92A 2m SSB/CW module .....Dm	679.00	179.95
AG-1200 1.2 GHz mast mounted preamp	151.00	139.95
UX-R96 Extended rcv unit; 970 **Special Order**	550.00	469.95
UX-97A 1.2 GHz module; 970 ..**Special Order**	1255.00	1049
ACCESSORIES		
CT-16 Satellite interface unit	$128.00	116.95
CT-17 CI-V level converter	135.00	124.95
UX-14 CI-IV/CI-V converter for CT-17	99.00	
EX-310 Voice synthesizer	85.00	
EX-627 HF auto ant selector; 7 ants .....Δf	410.00	279.95
HM-7 Amplified mobile mic, 8-pin	59.00	
HM-8 TTP microphone, 8-pin .....Δw	105.00	79.95
HM-12 Scan hand microphone	59.00	
HM-14 Scan/TTP microphone	90.00	
HS-15 Goose neck mobile microphone .....Df	54.00	14.95
MB-23 Side mount carrying handle	12.00	
OPC-047 24-pin optional acc cord .....Δv	19.00	6.95
OPC-052 2-pin cord for PS-30 .....Δv	12.00	4.95
OPC-053 4-pin cord for PS-30 .....Δmv	12.00	4.95
OPC-137 24-pin adaptr cbl; all base .....Dmf	20.00	16.95
PS-85 Power supply	325.00	279.95
SM-6 Electret desk microphone	102.00	99.95
SM-8 2-connector desk mic w/up/down scan	160.00	144.95
SM-20 Stand mic for base stations	207.00	189.95
SP-3 External speaker	112.00	99.95
SP-5 Mobile speaker	43.00	
SP-7 Small external speaker	75.00	
SP-10 Slim-line external speaker	55.00	
SP-12 Slim-line speaker w/visor clip	35.00	
SP-20 Speaker w/audio filter	248.00	219.95
OPK-4 External antenna kit for GP-22 ....Δmv	89.00	79.95

INNOVA (INN)

06-9509 AC/DC adapter for 06-1101 .....Δmf	$ 13.62	4.95

INTERFLEX (INT)

dspGOLD Software for AEA DSP-2232 .....f	$129.95	
KaGOLD DualPort Software for KPC/KAM ....f	79.95	
KaGOLD DualPort w/Pactor Soft; KPC/KAM .....f	99.95	
PkGOLD w/Pactor Software for PK-232MBX .f	99.95	
PkGOLD/900 Software for PK-900 .....f	129.95	

JPS (JPS)

	Reg	Sale
ANC-4 Antenna noise canceller	$175.00	169.95
NF-60 Auto DSP audio spectral notch filt Δmwfcv	160.00	129.95
NIR-10 Dlx noise/notch DSP bandpass filt Dmwfcv	299.95	249.95
NIR-12 Dual DSP noise reduction/filter unit ..	349.95	329.95

JPS - continued

	Reg	Sale
SDK-12 Software development kit; NIR-12 .	35.00	
NRF-7 Noise reducer and filter unit...Δmwfcv	219.95	169.95
NTR-1 Wide band noise/tone remover Δmwfcv	169.95	129.95
SSTV-1 DSP slow scanTV filter .....Δm	160.00	129.95
Power Pack 115vac/12vdc adapter	16.00	

JSC (JSC)

ROTOR CABLE		
JRR-420 4-wire; U-105/U-110 .....Δw, per ft.		14¢
JRR-420 .....Δw, **100** ft. Roll		12.95
JRR-420 .....Δw, **500** ft. Roll		44.95
JRR-520 5-wire; AR-40 .....Δmw, per ft.		14¢
JRR-520 .....Δmw, **100** ft. Roll		12.95
JRR-520 .....Δmw, **500** ft. Roll		44.95
JRR-520 .....Δmw, **1000** ft. Roll		79.95

K-COM (KCO)

RF-1 Modular telephone 3-30 MHz RFI filter ..	$ 16.95	
RF-1/Low Modular phone .5-3 MHz RFI filter .	16.95	
RF-1/2-line 2-line modular 3-30 MHz RFI filt	22.95	
RF-1/coiled Coiled cord modular 3-30MHz filt	22.95	
RF-2 Hard-wired telephone 3-30 MHz RFI filt	10.95	

KLM (KLM)

	Reg	Sale
ANTENNAS		
160V 160, 80 or 40m vertical, 24' high .....*	$300.00	259.95
80M-1 80m rotatable dipole, 90' long .....*T	980.00	849.95
80M-1R 80m rotatable dipole w/relays .....*T	1387.00	1199
80M-2 80m 2 el beam, 36' boom, 4 db .....*T	3251.00	2799
80M-2R 80m 2 el beam w/relays .....*T	4154.00	3579
80M-3 80m 3 el beam, 60' boom, 7 db .....*T	5416.00	4669
80M-3R 80m 3 el beam w/relays .....*T	7043.00	6069
SSV-80-40-15 80/40/15m vert, 65' high ...*T	966.00	839.95
6-12-8LPA 6-12 MHz 8el LP, 36' boom .....*T	2465.00	2129
Heavy duty boom only for **6-12-8LPA** .....*T	540.00	469.95
6-12-8LPA w/Heavy duty boom .....*T	2865.00	2469
6-30-15LPA 6-30 MHz 15el LP, 46' boom ...*T	4078.00	3519
7.2/10-30-LPA 7,10-30MHz 8 el, 42' bm ...*T	1459.00	1259
Heavy duty boom only for **7.2/10-30**-LPA .*T	499.00	429.95
7.2/10-30-LPA w/heavy duty boom .....*T	1921.00	1659
40M-1B 40m rotatable dipole, 46.5' bm ..Δw	261.00	229.95
40M-2B 40m 2 el beam, 16' boom, 4.9 db ..*	638.00	549.95
40M-3B 40m 3 el beam, 32' boom, 6.5 db ..*	911.00	789.95
Heavy duty boom only for **40M-3B** .....*T	367.00	319.95
40M-3B w/heavy duty boom .....*T	1214.00	1049
40M-4B 40m 4 el beam, 42' boom, 7.2 db ..*	1213.00	1049
Heavy duty boom only for **40M-4B** .....*T	499.00	429.95
40M-4B w/heavy duty boom .....*T	1716.00	1479
40-10V 40/20/15/10m 26.5' vertical .....Δm	373.00	229.95
10-30-7LPA 10-30MHz 7el LP, 30' bm, 7db *T	1043.00	899.95
Heavy duty boom only for **10-30-7LPA** .....*T	473.00	409.95
10-30-7LPA w/heavy duty boom .....*T	1577.00	1359
SK-8 Conv kit for 10-30 log w/o 40m dipole ..*	333.00	289.95
SK-8/40M Conv kit for 10-30 log w/40m dipole ...*	502.00	439.95
KT-31 20-15-10m 24.5' rotatable dipole Δmwfv	317.00	169.95
KT-34A 20-15-10m, 4 el, 16' boom, 7 db	624.00	539.95
KT-34 Upgrade kit - KT-34A to XA .....Δf	334.00	289.95
KT-34XA 20-15-10m, 6 el, 32' boom, 9 db	858.00	739.95
Heavy duty boom only for **KT-34XA** .....*T	376.00	329.95
KT-34XA w/heavy duty boom .....*T	1206.00	1039
30M-2 30m 2 el beam .....*	520.00	449.95
30M-3 30m 3 el beam .....*	754.00	649.95
20M-4 20m 4 el beam, 21' boom, 7.7 db .....*	541.00	469.95
20M-5 20m 5 el beam, 42' boom, 9.7 db ...*T	837.00	729.95
Heavy duty boom only for **20M-5** .....*T	499.00	429.95
20M-5 w/heavy duty boom .....*T	1248.00	1079
20M-6 20m 6 el beam, 57' boom, 11 db ....*T	1206.00	1039
Heavy duty boom only for **20M-6** .....*T	659.00	569.95
20M-6 w/heavy duty boom .....*T	1750.00	1499
20-30-6LPA 20-30MHz, 6el LP, 19'bm, 7db ..*	391.00	339.95
17M-3 17m 3el beam, 16.75' bm, 6.5db ΔTm	443.00	269.95
15M-4 15m 4 el beam, 14' boom, 7.7db .....*	287.00	249.95
15M-6 15m 6 el beam, 36' boom, 10.5db ..*T	679.00	589.95
Heavy duty boom only for **15M-6** .....*T	406.00	349.95
15M-6 w/heavy duty boom .....*T	989.00	859.95
15M-6LD As 15M-6, but light duty .....*	527.00	459.95
12-17-30D WARC tri-band dipole .....*	317.00	279.95
12-17-30V WARC tri-band vertical .....*	166.00	149.95
10M-4 10m 4 el beam, 10' bm, 7.7 db .....Δw	263.00	199.95

KLM - continued

	Reg	Sale
10M-6 10m 6 el beam, 27.5' boom, 11 db ...*	415.00	359.95
JV-10 10m 26' vertical antenna .....Δmw	122.00	79.95
Note: All KLM antennas supplied with a KLM balun/matching system, which is included in the price.		
6M-5 6m 5 el beam, 11.75' boom, 9.7 db	261.00	229.95
6M-7LB 6m 7el, 25.75' bm, 11.5db .....ΔTwv	381.00	229.95
6M-7LD 6m 7 el beam, 20' bm, 10.5 db .Δmv	298.00	229.95
6M-10 6m 10 el beam, 34' boom, 11.7 db .*T	542.00	469.95
6M-14 6m 14 el beam, 61' boom, 14 db ....*T	754.00	649.95
JV-6 6m 15' vertical antenna, 3 db ....Δmwfv	129.00	99.95
2M-4X 2m 4 el rear mt beam, 4.2' bm, 8.5db	81.00	74.95
2M-7X 2m 7 el beam, 8.75' boom, 10.3 db	91.00	84.95
2M-8 2m 8 el beam, 7.25' bm, 10.3db .Dmwf	124.30	79.95
2M-10X 2m 10 el beam, 15' boom, 12.5 db ...	104.00	94.95
2M-11X 2m 11 el beam, 15.33' bm, 12.5 db .	108.00	99.95
2M-12X 2m 12 el beam, 21' beam, 13.4 db ..	116.00	106.95
2M-13LBA 2m 13 el beam, 21.5' bm, 13.3db	125.00	114.95
2M-14C 2m circ 14 el beam, 12.9'bm, 11db/CS3	211.00	179.95
2M-14CM 2m circ 14 el beam, no switcher ...	169.00	139.95
2M-15X 2m 15 el beam, 28' boom, 14.8 db ...	215.00	189.95
2M-16LBXM 2m 16 el beam, 28' boom, 14.5db .	244.00	209.95
2M-20LBX 2m 20 el beam, 38.5' boom	316.00	269.95
2M-22C 2m circ 22el beam, 19'bm, 13db/CS3	265.00	229.95
2M-22CM 2m circ 22 el beam, no switcher ...	237.00	199.95
JV-2 2m 5' vertical antenna, 3 db .....Δmwfv	131.00	99.95
JV-2X 2m 11' vertical antenna, 5 db Δmwfcv	181.00	129.95
220-7 220 7 el beam, 4.75' bm, 8.8 db	98.00	89.95
220-14X 220 14 el beam, 14.5' bm, 13.5db ..	142.00	124.95
220-22LBX 220 22el beam, 29.75'bm, 15.6db .	178.00	154.95
JV-220X 220 7' vertical ant, 5 db .....Δmwcv	168.00	69.95
432-20LBX 432 20 el, 12.33'bm, 15.3db Δmwfv	189.00	149.95
432-30LBX 432 30 el beam, 22'bm, 17.3db ..	222.00	194.95
435-18C 432 cir 18el, 7'bm, 12db/CS2 Δmwfv	267.00	199.95
435-18CM 432 circ 18 el beam, no switcher .	186.00	169.95
435-40CX 432 circ 40el beam, 15'bm, 15.2db/CS2	309.00	269.95
435-40CXM 432 circ 40 el beam, no switcher	221.00	199.95
440-6X 440 6 el beam, 2.33' boom, 8.9 db ...	65.00	59.95
440-10X 440 10 el beam, 5.33' bm, 11.2 db .	82.00	74.95
440-16X 440 16 el beam, 10.33'bm, 14.2db .	142.00	124.95
1.2-15LBX 1.2 GHz 15 el beam	127.00	114.95
1.2-24LBX 1.2 GHz 24 el beam	155.00	139.95
1.2-44LBX 1.2GHz 44el beam, 12'bm, 18.2db	200.00	179.95
CS-2 432 antenna circularity switch	85.00	79.95
CS-3 2m antenna circularity switch	55.00	
LO-With Large set: 2M22C/43540CX/7½' mast	585.00	499.95
LO-Without Large set: 2M22CM/43540CXM/mast	462.00	399.95
SO-With Small set: 2M14C/43518C/5' mast .	462.00	399.95
SO-Without Small set: 2M14CM/43518CM/mast	364.00	319.95
FIBERGLASS MASTS		
5' 1½" OD fiberglass **mast**	$ 40.00	29.95
7-1/2' 1½" OD fiberglass **mast**	50.00	44.95
COUPLERS/POWER DIVIDERS		
440-2N 432 MHz - for 2 ants, w/type N	$ 81.00	
440-4N 432 MHz - for 4 ants, w/type N	91.00	
FERRITE BALUNS		
3-60-1:1 3-60 MHz 4kw PEP 1:1 balun	$ 55.00	
3-60-4:1 3-60 MHz 5kw PEP 4:1 balun	62.00	
50-150-1:1 50-150MHz 500w PEP 1:1 bln Dmw	56.00	14.95

***These antennas are drop-shipped (shipped direct to you from the KLM factory). On these factory drop-shipments we prefer payment in full with order, however, we will accept your credit card with the understanding that we will process the charge when we order the merchandise from the factory. This means that you may be billed before you receive your drop-shipped merchandise. Shipment is FOB Monroe, Washington via truck, COD for freight charges only. Freight charges will be collected upon delivery by the carrier. Please allow sufficient time for delivery on these special order antennas.**

KANTRONICS (KAN)

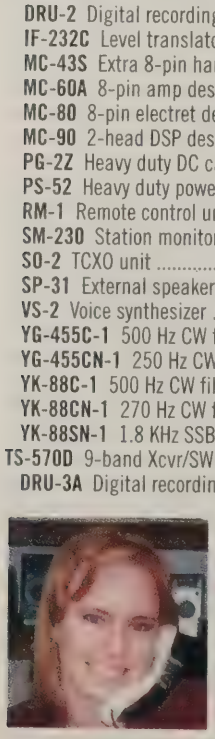
Data Engine TNC w/no modems .....Dmwv	$319.95	289.95
Data Engine w/DE-1200 modem .....Dmwfv	389.95	349.95
DE-1200 1200 baud modem .....Dmwv	89.95	79.95
DE-19K2/9K6 19.2/9600 baud modem Dmwfv	109.95	
KPC-2 Packet Communicator II controller .....Dm	179.95	149.95
KPC-3 Small packet TNC w/32K RAM	129.95	
KPC-3/128K Small packet TNC w/128K RAM .	149.95	144.95

KANTRONICS - continued

	Reg	Sale
KPC-9612 9600 controller/32K mem ...Dmwfv	229.95	209.95
KPC-9612/128K 9600 controller/128K Dmwfcv	259.95	239.95
KPC-9612 Plus 9600 baud controller/32K	289.95	269.95
KPC-**9612 Plus/128K** 9600 controller/128K ...	309.95	289.95
128K 128K memory upgrade; KPC-3/9612 ..	24.95	
KAM Plus All Mode Communicator	349.95	299.95
12VDC Adaptor 300ma adapt; KAM Plus/KPC3	9.95	
Host Master II+ IBM software	89.95	
Host Master Mac Macintosh software	89.95	
PC Combo Software for IBM .....Dmfv	49.95	4.95
Pactor Eprom option; KAM (**pre**-V5) .....Dv	79.95	39.95
Package 1 Enhancement board; KAM w/8.0E	109.95	
Package 2 8.0E upgrade; KAM enhance brd ..	39.95	
Package 3 8.0P upgrade; KAM Plus	39.95	
Superfax II WX FAX program for IBM	49.95	
APRS adapter cable; GPS to Kantronics TNC ..	29.95	
G-TOR Book	19.95	
KTU Weathernode rem WX unit w/temp .....Dc	249.95	199.95
Pager Handbook for the Radio Amateur	14.95	

KENWOOD (KEN)

	Reg	Sale
TS-950SDX Dlx Xcvr w/keyer/DSP/filters	5299.95	3969.95
DRU-2 Digital recording unit	149.95	139.95
IF-232C Level translator	129.95	119.95
MC-43S Extra 8-pin hand mic w/up-down ..	59.95	
MC-60A 8-pin amp desk mic w/up-down ...	159.95	149.95
MC-80 8-pin electret desk mic w/up-down .	119.95	109.95
MC-90 2-head DSP desk microphone	269.95	239.95
SM-230 Station monitor w/pan display	1199.95	1039.95
SP-950 External spkr w/audio filters	159.95	149.95
VS-2 Voice synthesizer	69.95	
YG-455CN-1 250 Hz CW filter (2nd IF)	179.95	164.95
YK-88CN-1 270 Hz CW filter (1st IF)	139.95	129.95
YK-88SN-1 1.8 KHz SSB filter (1st IF)	139.95	129.95
TS-870S 9-band Xcvr/SW Rcvr/IF-DSP/tuner .	3199.95	2299.95
DRU-3 Digital recording unit	139.95	129.95
MC-43S Extra 8-pin hand mic w/up-down ..	59.95	
MC-60A 8-pin amp desk mic w/up-down ...	159.95	149.95
MC-80 8-pin electret desk mic w/up-down .	119.95	109.95
MC-90 2-head DSP desk microphone	269.95	239.95
PS-52 Heavy duty power supply	309.95	269.95
SM-230 Station monitor (no pan display) ...	1199.95	1039.95
SO-2 TCXO unit	189.95	179.95
SP-31 External speaker	99.95	
VS-2 Voice synthesizer	69.95	
TS-850S 9-band Xcvr/SW Rcvr/mic ...Dmwfcv	1999.95	1349.95
AT-850 Internal auto antenna tuner	279.95	249.95
TS-850S/AT 9-band Xcvr/SW Rcvr/tuner Dmwfcv	2199.95	1499.95
AT-300 External auto antenna tuner Dmwfv	699.95	549.95
DRU-2 Digital recording unit	149.95	139.95
IF-232C Level translator	129.95	119.95
MC-43S Extra 8-pin hand mic w/up-down ..	59.95	
MC-60A 8-pin amp desk mic w/up-down ...	159.95	149.95
MC-80 8-pin electret desk mic w/up-down .	119.95	109.95
MC-90 2-head DSP desk microphone	269.95	239.95
PG-2Z Heavy duty DC cable	37.95	
PS-52 Heavy duty power supply	309.95	269.95
RM-1 Remote control unit .....Δmwfcv	59.95	
SM-230 Station monitor (no pan display) ...	1199.95	1039.95
SO-2 TCXO unit	189.95	179.95
SP-31 External speaker	99.95	
VS-2 Voice synthesizer	69.95	
YG-455C-1 500 Hz CW filter (2nd IF)	169.95	159.95
YG-455CN-1 250 Hz CW filter (2nd IF)	179.95	164.95
YK-88C-1 500 Hz CW filter (1st IF)	139.95	129.95
YK-88CN-1 270 Hz CW filter (1st IF)	139.95	129.95
YK-88SN-1 1.8 KHz SSB filter (1st IF)	139.95	129.95
TS-570D 9-band Xcvr/SW Rcvr/AF-DSP/tuner	1819.95	1569.95
DRU-3A Digital recording unit	139.95	129.95



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KENWOOD - continued

	Reg	Sale
MB-430 Mobile mounting bracket	49.95	
MC-43S Extra 8-pin hand mic w/up-down ..	59.95	
MC-60A 8-pin amp desk mic w/up-down ...	159.95	149.95
MC-80 8-pin electret desk mic w/up-down .	119.95	109.95
MC-90 2-head DSP desk microphone	269.95	239.95
PG-2Z Heavy duty DC cable	37.95	
PS-53 Heavy duty 22.5A power supply	289.95	249.95
SO-2 TCXO unit	189.95	179.95
SP-23 External speaker	89.95	
VS-3 Voice synthesizer	39.95	
YK-88C-1 500 Hz CW filter	139.95	129.95
YK-88CN-1 270 Hz CW filter	139.95	129.95
YK-88SN-1 1.8 KHz SSB filter	139.95	129.95
TS-450S 9-band Xcvr/SW Rcvr/mic ....Δmwfc	1469.95	1199.95
TS-690S 9-band Xcvr w/6m/SW Rcvr/mic	1769.95	1499.95
AT-450 Internal 80-10m auto tuner	279.95	249.95
TS-450S/AT 9-band Xcvr/SW Rcvr/tuner/mic ..	1649.95	1299.95
AT-50 External auto tuner	379.95	329.95
PG-4M 18' extension cable for AT-50	29.95	
IF-232C Level translator	129.95	119.95
MB-430 Mobile mounting bracket	49.95	
MC-43S Extra 8-pin hand mic w/up-down ..	59.95	
MC-60A 8-pin amp desk mic w/up-down ...	159.95	149.95
MC-80 8-pin electret desk mic w/up-down .	119.95	109.95
MC-90 2-head DSP desk microphone	269.95	239.95
PG-2Z Heavy duty DC cable	37.95	
PS-33 Light duty 20.5A power supply	239.95	209.95
PS-53 Heavy duty 22.5A power supply	289.95	249.95
SO-2 TCXO unit	189.95	179.95
SP-23 External speaker	89.95	
TU-8 CTCSS tone unit	54.95	
VS-2 Voice synthesizer	69.95	
YG-455C-1 500 Hz CW filter (2nd IF)	169.95	159.95
YG-455CN-1 250 Hz CW filter (2nd IF)	179.95	164.95
YK-88C-1 500 Hz CW filter (1st IF)	139.95	129.95
YK-88CN-1 270 Hz CW filter (1st IF)	139.95	129.95
YK-88S-1 2.4 KHz SSB filter (1st IF)	139.95	129.95
YK-88SN-1 1.8 KHz SSB filter (1st IF)	139.95	129.95
TS-50S Compact HF Xcvr/SW Rcvr/mic/mt	1359.95	1019.95
TS-60S Compact 6m Xcvr/mic/mt	1239.95	1049.95
AT-50 External HF auto tuner	379.95	329.95
PG-4M 18' extension cable for AT-50	29.95	
IF-10D Computer interface	89.95	
IF-232C Level translator	129.95	119.95
MB-13 Deluxe quick release mtg bracket .†	55.95	39.95
MC-47 Extra multi-func 8-pin hand mic	59.95	
MC-60A 8-pin amp desk mic w/up-down ...	159.95	149.95
MC-80 8-pin electret desk mic w/up-down .	119.95	109.95
PG-2Y DC cable	39.95	
PS-33 Light duty 20.5A power supply	239.95	209.95
PS-40 Switching power supply	229.95	199.95
PS-53 Heavy duty 22.5A power supply	289.95	249.95
SO-2 TCXO unit	189.95	179.95
SP-23 External speaker	89.95	
TC-50/50Case Travel case for TS-50S/60S .	89.00	
YK-107C 500 Hz CW filter	139.95	129.95
YK-455C-1 500 Hz CW filter; TS-140S ..Δmwf	114.95	99.95
R-5000 100 KHz-30 MHz digital receiver	1249.95	1069.95
IF-232C Level translator	129.95	119.95
MB-430 Mobile mounting bracket	49.95	
SP-23 External speaker	89.95	
VC-20 108-174 MHz VHF converter	229.95	199.95
YK-88A-1 AM filter	104.95	99.95
YK-88C 500 Hz CW filter	139.95	129.95
YK-88CN 270 Hz CW filter	104.95	99.95
YK-88SN 1.8 KHz SSB filter	139.95	129.95
HS-5 Deluxe headphones	79.95	
HS-6 Lightweight headphones	59.95	
LF-30A 1kw PEP low pass filter	64.95	
MA-5 5-band 200w PEP HF mob ant .Δmwfcv	189.95	149.95
VP-1 Hvy duty chrome spg, bpr mt .Δmwfcv	64.95	49.95
MC-43S 8-pin hand mic w/up-down switch ..	59.95	
MC-60A 8-pin amp desk mic w/up-down	159.95	149.95
MC-80 8-pin electret desk mic w/up-down	119.95	109.95
MJ-48 4-pin mic to 8-pin Xcvr adapt ....Dmwf	19.95	
MJ-64 6-pin mic to 4-pin Xcvr adapt .....Dm	14.95	29¢
E30-1765-08 Adapt cord; MC-85 - 8-pin Xcvr	21.95	
PC-1A 8-pin phone patch	139.95	129.95

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	Reg	Sale
PG-3B 15A DC line noise filter	29.95	
PG-3G 25A DC line noise filter	51.95	
RCS-1 Radio Construction Set IBM soft .....Δm	49.95	9.95
SP-41 Compact external speaker	49.95	
SP-50B High quality external mobile speaker	55.95	
SW-2100 1.8-30MHz 2kw SWR/power meter ..	174.95	159.95
TU-7 Prog encoder; TR-751A .....Δmv	54.95	
TM-255A 40w 2m SSB/FM Xcvr/9600 baud ...	1109.95	929.95
DFK-3 9' separate display cable kit	26.95	
DFK-4 13' remote cable kit	59.95	
DFK-7A Deluxe 22' remote cable kit	99.95	89.95
PG-5A Packet data cable	15.95	
TSU-8 CTCSS decoder	59.95	
TS-790A 45w 2m/40w 440 SSB/FM Xcvr/mic .	2199.95	1849.95
IF-232C Level translator	129.95	119.95
MC-43S Extra 8-pin hand mic w/up-down ..	59.95	
MC-60A 8-pin amp desk mic w/up-down ...	159.95	149.95
MC-80 8-pin electret desk mic w/up-down .	119.95	109.95
PG-2Z Heavy duty DC cable	37.95	
SP-31 External speaker	99.95	
TSU-5 Programmable CTCSS decoder	64.95	
UT-10 10w 1.2 GHz module	629.95	539.95
VS-2 Voice synthesizer	69.95	
TM-642A 2m/220 FM Xcvr w/TTP .....Δmwv	959.95	799.95
TM-642AD 2m/220 FM Xcvr/backlit TTP mic ..	989.95	849.95
TM-742AD 50/35w 2m/440 FM/backlit TT mic †	959.95	699.95
TM-942A 50/35/10w 2m/440/1.2 FM/TT Dmwfv	1309.95	1049.95
DFK-3 9' separate display cable kit	26.95	
DFK-4 13' remote cable kit	59.95	
DFK-7 Deluxe 22' remote cable kit	89.95	
MJ-88 Modular to 8-pin mic adapter	30.95	
MJ-89 Modular mic switch	69.95	
TSU-7 CTCSS decoder unit	59.95	
UT-28S 50w 10m unit .....Dmwfcv	339.95	169.95
UT-50S 50w 6m unit	379.95	329.95
UT-220S 25w 220 MHz unit	379.95	329.95
UT-440S 35w 440 MHz unit	339.95	299.95
UT-1200 10w 1.2 GHz unit	459.95	399.95
TM-733AHKBLD 2m/440/backlit/9600/dplxr †	829.95	499.95
DFK-3B 9' separate display cable kit	39.95	
DFK-4B 13' remote cable kit	60.95	
DFK-7B Deluxe 22' remote cable kit	99.95	
PG-5A Packet data cable	15.95	
TSU-8 CTCSS decoder	59.95	
MA-700 3db 2m/5.5db 440 ant w/duplexer .†	109.95	79.95
Larsen **PO-K** Roof mt, coax; MA-700	24.00	
Larsen **PO-MM** Magnet mt, coax; MA-700 ...	31.70	
Larsen **PO-TLM** Trunk lip mt, coax; MA-700	27.30	
TM-241A 50w 2m FM Xcvr w/TTP mic Dmwfcv	459.95	259.95
TM-241AHK2L 50w 2m FM/backlit TTP Dmwfcv	479.95	269.95
TM-331A 25w 220 FM Xcvr w/TTP mic	579.95	499.95
TM-441A 35w 440 FM Xcvr/TTP mic ..Dmwfcv	579.95	349.95
DTU-2 Digital paging unit	32.95	
KQT-8/TSU-6 Prog CTCSS decoder	49.95	
MC-44DM Extra multi-function TTP mic	79.95	
TM-251A 50w 2m FM Xcvr/TTP/9600 baud	529.95	319.95
TM-451A 35w 440 FM Xcvr/TTP/9600 baud ...	599.95	479.95
MC-45DM Extra multi-function TTP mic ...†	79.95	59.95
ME-1 Memory expansion .....†	39.95	29.95
PG-5A Packet data cable	15.95	
TSU-8 CTCSS decoder	59.95	
TM-261A 50w 2m FM Xcvr w/TTP mic	429.95	269.95
TM-461A 35w 440 FM Xcvr w/TTP mic	509.95	439.95
TSU-8 CTCSS decoder	59.95	
MC-52DM Back-lit TTP mic;241/331/441/541 ...	79.95	
MC-53DM Back-lit TTP mic;251/733/742/255 ...	79.95	

Accessory: TH-A/B/2600A/3600A/2500/3500

RA-9B 220 BNC stubby duck .....Dm	$ 18.95	1.95

Accessory for TH-225A/315A/415A/205AT

SC-27 Soft case for TH-225A w/PB-12 .....Dm	$ 19.50	49¢

Accessories for TH-75A/77A/25AT/26AT

BT-6 6-AA battery case	$ 29.95	
DC-1 DC adapter .....Dm	26.95	69¢
PG-3E Cig cord w/filter for DC-1	35.95	
KNB-5A 800ma 7.2v battery	63.95	
KNB-7A 800ma 12v (5w) batt (not 55AT)	87.95	
KQT-8/TSU-6 CTCSS encoder/decoder	49.95	

KENWOOD - continued

	Reg	Sale
KWR-1/WR-1 Water resistant bag .....Dm	22.00	14.95
Accessory for TH-26AT/46AT		
SC-26 Soft case for PB-7/8/9 .....Dm	$ 22.95	49¢
Accessory for TH-27A/47A		
TH-28A 2.5w 2m FM HT/batt/cgr/TTP	$399.95	329.95
TH-48A 2w 440 FM HT/batt/cgr/TTP .....†	469.95	289.95
Accessories for TH-28A/48A/78A		
BC-15A Rapid charger for PB-13/14/17/18 .†	$119.95	99.95
BH-6 Swivel mount	39.95	
BT-8 AA alkaline battery case .....†	29.95	19.95
EMC-1 Lapel clip mic/ear piece	43.95	
HMC-2 VOX/boom mic headset .....Dmfv	72.95	64.95
HMC-3 VOX/boom mic headset	72.95	
KLF-3/PG-3F Cig cord w/filter .....Dmw	23.50	
ME-1 Memory expansion .....†	39.95	29.95
PB-13 700ma 7.2v battery	67.95	
PB-14 300ma 12v (5w) battery .....Dmwfc	90.95	59.95
PB-17 700ma 12v (5w) battery .....†	99.95	79.95
PB-18 1100ma 7.2v battery	89.95	
PG-2W DC cable w/fuse	17.95	
PG-3H Cig lighter cord w/filter .....Dwf	36.95	
PG-3J Cig lighter cord w/filter	36.95	
SC-33 Small soft case; 28A/48A	24.95	
SC-34 Large soft case; 28A/48A	24.95	
SC-35 Regular soft case; 78A .....†	24.95	19.95
SC-36 Large soft case; 78A .....†	24.95	19.95
SMC-32 Mini water resistant rt angle spkr/mic .	52.95	
SMC-33 Speaker/mic w/remote control	65.95	
SMC-34 Spkr/mic w/vol cont & function keys	67.95	
WR-2 Water resistant bag	29.95	
TH-22ATK2 Various models .....special order		CALL
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TH-79A(D) 2.7w 2m/440 HT/batt/cgr/TTP	629.95	419.95
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BH-6 Swivel mount	39.95	
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PB-32 600ma 6v battery .....†	66.95	49.95
PB-33 1200ma 6v battery	89.95	
PB-34 600ma 9.6v (5w) battery	89.95	
PG-2W DC cable w/fuse	17.95	
PG-3J Cig lighter cord w/filter	36.95	
RA-3 2m BNC ⅜ wave telescopic ant .....Dm	25.95	19.95
SC-37 Soft case; TH-22/42AT w/PB-30/32 .	24.95	
SC-39 Soft case; TH-22/42AT w/PB-33/34 .	24.95	
SC-41 Soft case; TH-79A(D) w/PB-32	24.95	
SC-43 Soft case; TH-79A(D) w/PB-33/34	24.95	
SMC-32 Mini water resist rt angle spkr/mic ...	52.95	
SMC-33 Speaker/mic w/remote control	65.95	
SMC-34 Spkr/mic w/vol cont/function keys	67.95	
TSU-8 CTCSS decoder; TH-22/42AT	59.95	
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NMO-27C 10m ant only (no mount)	$ 33.50	29.95
47-54 MHz ANTENNAS		
NMO-50C 6m ant only (no mount)	$ 33.50	29.95
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NMO-150C 2m ant only (no mount), 3 db	30.70	27.95
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NLA-220 220 ant only (no mt), 3 db .....Dwfv	$ 36.35	14.95
NMO-220C 220 ant only (no mount), 3 db	30.00	26.95
440-460 MHz ANTENNAS		
NLA-440 440 ant only (no mt), 5 db .....Dfv	$ 34.85	14.95
NMO-440B 440 black ant only (no mt), 5 db .	35.80	32.95
NMO-440C 440 ant only (no mount), 5 db	29.30	26.95
OM-440-K 440 no gnd plane ant, 2 db ....Dmf	52.15	12.95
MM-2/70 2m/440 ¼ wave/2db mag mt ant ...	42.00	37.95
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NMOQ-Spec 136-512 MHz ¼ wave ant (no mt) .	9.70	
NMOQ-Spec-B 136-512 black ¼ wv ant (no mt)	13.20	
NMOQ-Spec-K 136-512MHz ¼ wv ¾" hole ant .	23.20	
NMOQ-2/70-B 2m/440 ¼ wv cell look ant (no mt)	31.15	
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KD4-2/70 2m/440 BNC Kulduckie	27.70	
KD4-222 220 BNC Kulduckie	17.30	
KD14-445 440 ¼ wave BNC Kulduckie	17.30	
KD4-146-HQ 2m part helical, part ¼ wave BNC .	21.50	
KD14-2M-HW 2m ½ wave BNC antenna	33.80	
KD14-440-HW 440 ½ wave BNC antenna	33.80	
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AD-2/70 100w 2m/440 duplexer	69.20	62.95
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NMO-MM Magnet mt, coax for NMO ant	29.80	

LARSEN - continued

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PO-MM Magnet mt, coax for SO-239 ant	31.70	
PO-TLM Trunk lip mt, coax for SO-239 ant	27.30	
RG-NLA Extra NLA rubber gaskets (3) .....Dm	2.10	99¢
RG-SS Extra super seal NMO gaskets (3)	3.00	
SPRING Shock spring	6.80	
TMB-34 Trunk mtg bkt for NMO antenna	4.70	
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TMB-38 Trunk mtg bkt for NLA ant .....Δf	4.70	1.95
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949E 300w/meter/dummy/sw/baluno	149.95	139.95
948 300w/meter/switch/balun	129.95	119.95
941E 300w tuner w/meter, switch, balun	109.95	99.95
945D 300w tuner w/meter .....Dm	99.95	79.95
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20 Mobile bracket for 945D	4.95	
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903 6m antenna tuner	49.95	
906 6m antenna tuner w/wattmeter	79.95	74.95
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921 2m/220 300w PEP tuner/SWR/wattmeter	69.95	
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52 TNC2 deviation meter board	29.95	
56A Pactor/mailbox 32K board for 1278B ...	69.95	
56B Pactor/mailbox 128K board for 1278B .	89.95	
56C Pactor/mailbox 512K board; 1278B	149.95	139.95
780 DSP data filter for 1278B	99.95	89.95
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1293 JVFax/HamCom software/FJ-1213	9.95	
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1272BX TNC/mic switch; PK-232	39.95	
1272BYH TNC/mic switch; KAM HF	39.95	
1272BYV TNC/mic switch; KAM VHF	39.95	
1272BZ TNC/mic switch; PK-88	39.95	
1272M TNC/mic RJ-45 switch; MFJ/PK-900 ...	39.95	
1272MX TNC/mic RJ-45 switch; PK-232	39.95	
1272MYH TNC/mic RJ-45 switch; KAM HF	39.95	
1272MYV TNC/mic RJ-45 sw; KAM VHF; KPC3	39.95	
1272MZ TNC/mic RJ45 switch; PK88 Δmwfcv	39.95	34.95
1273 Packet tuning indicator .....Dmwfv	49.95	9.95

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752C Dual tunable SSB/CW filter	99.95	89.95
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784B Deluxe tuneable DSP filter	249.95	229.95
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260C 300w 0-650 MHz dry dummy load	29.95	
260CN 300w 0-650 MHz type N dry dummy ...	34.95	
264 1.5kw 0-650 MHz dry dummy load	59.95	
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812B 144-220 MHz SWR/FS/wattmeter	$ 29.95	
815B 160-6m cross-needle SWR/wattmeter ...	69.95	
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209 1.8-170 MHz SWR analyzer	109.95	99.95
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219 SWR analyzer, 440 MHz	99.95	89.95
219N SWR analyzer, 440 MHz w/type N	99.95	89.95
224 2m FM signal analyzer	159.95	149.95
249 1.8-170 MHz SWR analyzer/LCD counter .	219.95	199.95
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1292 Video digitizer for IBM .....Δmwfv	199.95	149.95
1610 Novice theory tutor soft; IBM ...Δmwfcv	29.95	24.95
1611 Tech theory tutor soft; IBM .....Δmwfcv	29.95	24.95
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1630	Novice theory tutor soft; Mac .....Δmv	29.95	19.95
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1633	Advanced theory tutor soft; Mac ....Δmv	29.95	19.95
1634	Extra theory tutor soft; Mac .....Δmv	29.95	19.95
1635	No-code theory tutor software for Mac ..	49.95	
1680I	Windows soft package; Icom ....Δmwfv	109.95	79.95
1680K	Windows soft package; Ken .....Δmwfv	109.95	79.95
1680Y	Windows soft package; Yaesu .Δmwfv	109.95	79.95
1681	Log Windows software .....Δmwfv	69.95	59.95
1682	Packet Windows software .....Δmwfv	29.95	24.95
1683I	Rig Windows software for Icom	29.95	
1683K	Rig Windows software for Kenwood	29.95	
1683Y	Rig Windows software for Yaesu	29.95	
5383I	Icom Xcvr interface cable	49.95	
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5383Y	Yaesu interface cable, std 6-pin DIN	49.95	
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1728B	2m ⅝ wave mag mt ant/PL259/BNC ...	24.95	
1729	2m/440 magnet mt antenna	29.95	
1730	2m pocket roll-up vertical ant	14.95	
1734	2m/440 2.6/6.3db glass mt antenna	39.95	
1738	2m 2.6db glass mt antenna	29.95	
94	Remount kit for 1734/1738	7.95	
1740	2m ¼ wave ground plane ant	12.95	
1750	2m ⅝ wave ground plane ant	19.95	
1752	220 ⅝ wave ground plane ant	19.95	
1754	2m/440 ground plane antenna	24.95	
1762	6m beam antenna	69.95	
1763	2m 3el portable beam	39.95	
1764	2 & 6m dual ⅝ super gain base ant	44.95	
1765	Direct feed pwr splitter/harness .Δmwc	29.95	8.95
1766	Stacked 2m dual ⅝ base ant ...Δmwfcv	109.95	89.95
1768	2m/440 beam antenna	69.95	
1778	G5RV 160-10m 102' ant (needs tuner) .	29.95	
1780	14-30 150w 2 'x 2' box loop ant .Δmwv	229.95	189.95
1782	Super Hi-Q 10-30 loop/basic control Δmwfv	269.95	199.95
1786	Super Hi-Q 10-30MHz loop/dlx control ..	299.95	269.95
1312B	12vdc 300ma adapter; 1782/1786 ..	12.95	
1788	40m Super Hi-Q loop antenna	359.95	329.95
1792	80-40m vertical antenna	159.95	139.95
1793	80/40/20m vertical antenna	179.95	159.95
1796	40/20/15/10/6/2m 10' vertical ant	199.95	179.95
1798	80/40/30/20/17/15/12/10/6/2m 20' vert	269.95	249.95
1824BB	Cell look alike BNC scanner ant	19.95	
1824BM	Cell look Motorola plug scanr ant Δm	19.95	14.95
1828B	Magnet mt BNC scanner antenna	29.95	
1828M	Mag mt Motorola plug scan ant .Δmw	29.95	24.95
1864	Base scanner ant w/preamp .....Δmwf	79.95	59.95
3036	The Packet Radio Operators book	12.95	
3101	Fox Hunt Adventure book	7.95	
3210	Novice license guide	7.95	
3211	Tech Plus license guide	7.95	
3212	No code tech license guide	14.95	
3213	General license guide	7.95	
3214	Advanced license guide	7.95	
3215	Extra license guide	7.95	
3301	Troubleshooting Antenna & Feedlines book	12.95	
3302	73 Dipole and Long-Wire Antennas	12.95	

MFJ - continued

		Reg	Sale
3303	73 Vertical, Beam, and Triangle Ants ...	12.95	
3304	Technician Antenna Handbook ....Dmwv	9.95	4.95
3305	Antennas & Transmission Lines book ...	19.95	
3502	Solid State QRP Projects	12.95	
3504	FET Principles, Experiments & Projects .	16.95	
3506	Ferromagnetic-Core Design book	19.95	
5022	MFJ TNC - Alinco/Standard HT cable	14.95	
5022X	PK-232 - Alinco/Standard HT cable	14.95	
5022YV	KAM VHF/KPC3 - Ali/Sta HT cable	14.95	
5024	MFJ TNC - Ico/Yae/Ali/RS HT cable	14.95	
5024B	PK/PacComm/compatible - Icom/Yaesu	14.95	
5024X	PK-232 - Ico/Yae/Ali/RS HT cable	14.95	
5024YV	KAM VHF/KPC3 - Ico/Yae/Ali/RS HT cbl	14.95	
5024Z	PK-88 - Ico/Yae/Ali/RS HT cable	14.95	
5026	MFJ TNC - Kenwood HT cable	14.95	
5026X	PK-232 - Kenwood HT cable	14.95	
5026YV	KAM VHF/KPC3 - Kenwood HT cable ..	14.95	
5026Z	PK-88 - Kenwood HT cable .....Δmwfcv	14.95	12.95
5080	MFJ TNC - Yaesu 8-pin cable	14.95	
5080M	MFJ TNC - Yaesu 8-pin modular	14.95	
5080MX	PK-232 - Yaesu 8-pin modular	14.95	
5080MYV	KAM VHF/KPC3 - Yaesu 8-pin mod .	14.95	
5080MZ	PK-88 - Yae 8-pin modular .Δmwfcv	14.95	12.95
5080X	PK-232 - Yaesu 8-pin cable	14.95	
5080YH	KAM HF port - Yaesu 8-pin cable	14.95	
5080YV	KAM VHF/KPC3 - Yaesu 8-pin cable ..	14.95	
5080Z	PK-88 - Yaesu 8-pin cable .....Δmwfcv	14.95	12.95
5082	Open end - 8-pin mic cable	9.95	
5084	MFJ TNC - Icom 8-pin cable	14.95	
5084M	MFJ TNC - Icom 8-pin modular	14.95	
5084MX	PK-232 - Icom 8-pin modular	14.95	
5084MYV	KAM VHF/KPC3 - Icom 8-pin mod ...	14.95	
5084MZ	PK-88 - Ico 8-pin modular ..Δmwfcv	14.95	12.95
5084X	PK-232 - Icom 8-pin cable	14.95	
5084YH	KAM HF port - Icom 8-pin cable	14.95	
5084YV	KAM VHF/KPC3 - Icom 8-pin cable	14.95	
5084Z	PK-88 - Icom 8-pin cable .....Δmwfcv	14.95	12.95
5086	MFJ TNC - Kenwood/Alinco 8-pin cable .	14.95	
5086M	MFJ TNC - Kenwood 8-pin modular	14.95	
5086MX	PK-232 - Kenwood 8-pin modular	14.95	
5086MYV	KAM VHF/KPC3 - Ken 8-pin mod	14.95	
5086MZ	PK-88 - Ken 8-pin modular .Δmwfcv	14.95	12.95
5086X	PK-232 - Kenwood/Alinco 8-pin cable	14.95	
5086YH	KAM HF port - Ken/Ali 8-pin cable	14.95	
5086YV	KAM VHF/KPC3 - Ken/Ali 8-pin cable	14.95	
5086Z	PK-88 - Ken/Ali 8-pin cable ...Δmwfcv	14.95	12.95
5205	5-pin DIN open end cable	4.95	
5215	5-pin DIN patch cable .....Dv	9.95	7.95
5222	Open end - Ali split HT cable ...Δmwfcv	9.95	
5224	Open end - Ico/Yae/Ali/RS HT cable	9.95	
5226	Open end - Kenwood HT cable	9.95	
5268	Open end - modular phone plug cable ..	9.95	
5412	IBM printer cable	9.95	
5413	RS-232 cable DB-25M-252	9.95	
5414	RS-232 cable DB-25M-9F2	9.95	
5803/10	3' coax jumper cable	4.95	
8100K	Shortwave regenerative Rcvr kit	59.95	
8100W	Shortwave regenerative Rcvr wired ...	79.95	72.95
8400K	2m receiver kit	79.95	72.95
8400W	2m receiver wired	99.95	89.95
9606X	6m FM/data Xcvr w/mic	159.95	149.95
8621	VHF data radio w/145.01 MHz	119.95	109.95
8621X1	APRS ready VHF data radio/145.79MHz	139.95	129.95
8631	220 MHz data transceiver	139.95	129.95
4110	Portable AC power supply	39.95	
5100	Data radio cable - MFJ/TAPR	14.95	
5100X	Data radio cable - PK-232	14.95	
5100YH	Data radio cable - KPC-9612	14.95	
5100YV	Data radio cable - KAM/KPC-3	14.95	
5100Z	Data radio cable - PK-88 .....Δmwfv	14.95	12.95
9015	5w 15m CW Xcvr	189.95	169.95
9017	5w 17m CW Xcvr	189.95	169.95
9020	5w 20m CW Xcvr	189.95	169.95
9030	5w 30m CW Xcvr	189.95	169.95
9040	5w 40m CW Xcvr	189.95	169.95
27	Handle for CW station	4.95	
412	Plug-in Curtis keyer	39.95	
726	Plug-in audio filter	29.95	

MFJ - continued

		Reg	Sale
971	200w portable ant tuner w/meter	89.95	84.95
1770	Portable 15m dipole	34.95	
1771	Portable 17m dipole .....Δmwfv	34.95	29.95
1772	Portable 20m dipole	34.95	
1773	Portable 30m dipole	34.95	
1774	Portable 40m dipole	34.95	
4112	Portable power pack .....Dmwfcv	49.95	39.95
4114	Rechargeable power pack	69.95	64.95
9115B	9015 Xcvr/971 tuner/4114 ps/1770 ant ..	339.80	299.95
9117B	9017 Xcvr/tuner/ps/ant .....Δmwfv	339.80	269.95
9120B	9020 Xcvr/971 tuner/4114 ps/1772 ant ..	339.80	299.95
9130B	9030 Xcvr/971 tuner/4114 ps/1773 ant ..	339.80	299.95
9140B	9040 Xcvr/971 tuner/4114 ps/1774 ant ..	339.80	299.95
9406X	6m SSB Xcvr w/mic	259.95	239.95
9420X	12w 20m SSB Xcvr w/mic	239.95	219.95
9440X	12w 40m SSB Xcvr w/mic	239.95	219.95
9475X	12w 75m SSB Xcvr w/mic	239.95	219.95
62	Headphone kit	4.95	
415	SSB Xcvr CW adaptor	39.95	
971	200w HF portable ant tuner w/meter ...	89.95	84.95
4110	Portable AC power supply	39.95	
4114	Rechargeable power pack	69.95	64.95
416	CW adapter for 9406X	39.95	
1776	6m dipole for 9406X	34.95	

MAGELLAN (MAG)

GPS-2000	GPS receiver	$279.99	199.95
GPS-4000	GPS receiver w/carrying case	349.99	249.95
00-69007-000	External power module	49.99	
Meridian XL	GPS/track plotter/detach ant/case	399.00	299.95

MAHA (MAH)

MH-BP-7	900ma 13.8v Icom nickel hydride ..	$ 69.00	
MH-BP-8	1200ma 8.4v Icom nickel hydride ..	59.00	
MH-BP-8H	1800ma 8.4v Icom nickel hydride	69.00	
MH-BP-83	1200ma 7.2v Icom nickel hydride	49.00	
MH-BP-132	900ma 12v Ico blk nick hyd .Dwc	59.00	54.95
MH-BP-132B	1200ma 12v Ico blk nick hyd/mic .	59.00	
MH-BP-132G	1200ma 12v Ico gray nick hyd/mic .	59.00	
MH-CNB-152	900ma 12v Sta nickel hydride .	59.00	
MH-CNB-153	1200ma 7.2v Sta nickel hydride	49.00	
MH-FNB-12	900ma 12v Yaesu nickel hydride	59.00	
MH-FNB-17	900ma 7.2v Yaesu nickel hydride	49.00	
MH-FNB-27	900ma 12v Yaesu nickel hydride	59.00	
MH-FNB-31	650ma 4.8v Yaesu nickel hydride	49.00	
MH-FNB-38	650ma 9.6v Yaesu nickel hydride	59.00	
MH-FNB-41	900ma 9.6v Yaesu nickel hydride	55.00	
MH-PB-8	1200ma 12v Kenwood nickel hydride	62.00	
MH-PB-17	900ma 12v Kenwood nickel hydride	69.00	
MH-PB-18	1200ma 7.2v Ken nick hyd; wall cgr only	49.00	
MH-PB-32	900ma 6v Kenwood nickel hydride	47.00	
MH-PB-33	1200ma 6v Ken nick hydride Dmcwv	49.00	
MH-PB-34	900ma 9.6v Kenwood nickel hydride	57.00	
MH-101-I1	Cgr;Ico 157/160/174/131/2/Mah 132B/G	69.95	
MH-101-Y1	Cgr;Yae 10/11/12/17/25/27/Mah 12/27	69.95	
MH-101-Y2	Cgr;Yae FNB31/38/Mah MHFNB38	69.95	
MH-101-Y3	Cgr; Yae 40/41/42/Mah MHFNB41	69.95	
MH-A101	5/35w 2m FM amplifier	69.95	
MH-A102	5/35w 2m FM/SSB amp/preamp	89.95	
MH-A103	5/50w 2m FM/SSB amp/preamp	119.95	
MH-A201	5/45w 2m//5/35w 440 FM amp	159.95	
MH-A301	5/50w 2m HT dock boost amp/pre ..	115.95	
MH-A302	5/45//5/35w 2m/440 HT dock boost	165.95	
MHS-I1	Ico 2G/02/2/32 adapter; A301	9.95	
MHS-I2	Ico 2SAT adapter; A301	9.95	
MHS-I3	Ico 2GXAT/W21AT adapter; A301	9.95	

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MAHA - continued

	Reg	Sale
MHS-K1 Ken 25/26/75/77 adapter; A301	9.95	
MHS-K2 Ken 22/79 adapter; A301	9.95	
MHS-S1 Standard/ADI adapter; A301	9.95	
MHS-Y1 Yae 23/411E/470 adapter; A301	9.95	
MHS-Y2 Yae 26/415/530 adapter; A301	9.95	

MALDOL (MAL)

AH-209S 2m/440 3" duck	$ 18.99	
ARD-5B 2m/440 0/3.8db 19.6" mob ant Δmwf	59.99	49.95
ARD-6 2m/440 2.6/4.9db 26.8" mobile ant	70.99	
ARD-6B Black 2m/440 2.6/4.9db 26.8" mob	70.99	
ARD-10 2m/440 3/5.5db 34.8" mobile ant	70.99	
ARD-10B Black 2m/440 3/5.5db 34.8" mob	70.99	
ARD-12 2m/440 4.3/6.8db 48.8" mobile ant	97.99	
ARD-12B Black 2m/440 4.3/6.8db 48.8" mob	97.99	
ARD-16 2m/440 5/7.7db 65.6" mobile ant	99.99	
ARD-16B Black 2m/440 5/7.7db 65.6" mob	99.99	
ARS-50 6m 1/4 wave 61.2" mobile antenna	74.99	
ARS-146 2m 4.1db 56" mobile ant Δmwfv	77.99	59.95
ARS-146B Black 2m 4.1db 56" mobile ant	77.99	
ARS-440 440 5.5db 38.4" mobile ant Δmwfv	67.99	54.95
ARS-440B Black 5.5db 38.4" mobile ant	67.99	
EX-110 2m/440 3/5.5db 37.8" mob ant Δmwfv	64.99	49.95
EX-110B Black 2m/440 3/5.5db 37.8" mob	64.99	
EX-111 2m/440 3.6/6db 44" mobile antenna	77.99	
EX-111B Black 2m/440 3.6/6db 44" mobile	77.99	
FA-50 2m/440 2.15/3.2db 18.8" mag mt ant	51.99	
FR-30 2m/440 15" flexible telescopic whip	52.99	
HS-702S 2m/440 0/3.2db 17.6" duck	19.99	
HS-FOX727 2m/440 9.5/11.15db 3/5el beam	119.99	
MK-30H Hatch/trunk power mount	164.99	
MK-30K Roofrail/carrier power mount	164.99	
RG-4M 13' coax & connector	17.99	

MIRAGE (MIR)

A-1015G 6m FM/SSB 10/150w amp/preamp	$389.00	349.95
A-1035G* 6m FM/SSB 10/350w 28v amp/pre	659.00	589.95
B-23 2m FM/SSB 2/30w amplifier Dmf	129.00	99.95
B-23G 2m FM/SSB 2/30w amp/preamp Df	169.00	154.95
B-34 2m FM 2/35w amplifier	79.00	
B-34G 2m FM/SSB 3.5/35w amp/preamp	99.00	
B-215G 2m FM/SSB 2/150w amp/preamp	379.00	339.95
B-108G 2m FM/SSB 10/80w amp/pre Dwv	229.00	204.95
B-310G 2m FM/SSB 4/100w amp/preamp	199.00	179.95
B-1016G 2m FM/SSB 10/160w amp/preamp	379.00	339.95
B-1030G 2m FM/SSB 10/300w amp/preamp	689.00	619.95
B-1060G* 2m FM/SSB 10/600w 28v amp/pre	1094.00	989.95
B-2516G 2m FM/SSB 25/160w amp/preamp	299.00	269.95
B-2530G 2m FM/SSB 25/300w amp/preamp	689.00	619.95
B-2560G* 2m FM/SSB 25/600w 28v amp/pre	1094.00	989.95
B-5016G 2m FM/SSB 50/160w amp/preamp	299.00	269.95
B-5030G 2m FM/SSB 50/300w amp/preamp	669.00	599.95
B-5060G* 2m FM/SSB 50/600w 28v amp/pre	1094.00	989.95

*Requires 28 volts; information on combining power supplies included in operations manual.

BD-35 2m/440 3/45//4/35w HT amp	199.00	179.95
C-22 220 FM/SSB 2/20w amplifier	129.00	119.95
C-22G 220 FM/SSB 2/20w amp/preamp	169.00	154.95
C-211G 220 FM/SSB 2/110w amp/preamp	339.00	299.95
C-106G 220 FM/SSB 10/60w amp/preamp	239.00	214.95
C-1012G 220 FM/SSB 10/120w amp/preamp	339.00	299.95
C-1022G 220 FM/SSB 10/220w amp/preamp	655.00	589.95
C-2512G 220 FM/SSB 25/120w amp/preamp	315.00	289.95
C-2522G 220 FM/SSB 25/220w amp/preamp	655.00	589.95
C-5012G 220 FM/SSB 50/120w amp/pre Δmwf	334.00	279.95
C-5022G 220 FM/SSB 50/220w amp/pre Δmwf	639.00	529.95
D-15N 430 FM/SSB/ATV 2/18w type N amp	189.00	169.95
D-26N 440 FM/SSB 2/60w type N amplifier	269.00	244.95
D-1010N 440 FM/SSB 10/100w type N amp	395.00	354.95

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MIRAGE - continued

	Reg	Sale
D-3010N 440 FM/SSB 30/100w type N amp	365.00	329.95
D-100-ATVN 430 ATV 1/52w type N amp	414.00	369.95
D-1010-ATVN 430 ATV 10/100w type N amp	414.00	369.95
RC-1* Remote control head w/18' cable	45.00	

*Not for B-23/C-22/D-26

The following Repeater Amplifiers are available on Special Order. Specify SO-239 or type N connectors

A-1015NR 6m FM 2/80w type N amplifier	$599.00	539.95
A-1015R 6m FM 2/80w SO-239 amplifier	579.00	519.95
B-215NR 2m FM 1/110w type N amplifier	579.00	524.95
B-215R 2m FM 1/110w SO-239 amplifier	559.00	504.95
B-1016NR 2m FM 2/120w type N amplifier	619.00	559.95
B-1016R 2m FM 2/120w SO-239 amplifier	599.00	539.95
B-2516NR 2m FM 12/120w type N amplifier	569.00	519.95
B-2516R 2m FM 12/120w SO-239 amplifier	549.00	499.95
C-211NR 220 FM .5/80w type N amplifier	649.00	584.95
C-211R 220 FM .5/80w SO-239 amplifier	629.00	564.95
C-1012NR 220 FM 5/90w type N amplifier	649.00	584.95
C-1012R 220 FM 5/90w SO-239 amplifier	629.00	564.95
C-2512NR 220 FM 15/90w type N amplifier	615.00	559.95
C-2512R 220 FM 15/90w SO-239 amplifier	595.00	539.95
D-1010NR 440 FM 4/80w type N amplifier	654.00	589.95
D-3010NR 440 FM 12/80w type N amplifier	625.00	564.95
D-100-ATVN-R 430 ATV 1/40w type N amp	654.00	589.95
D-1010-ATVN-R 430 ATV 4/80w type N amp	654.00	589.95

PREAMPS

KP-1/10M 10m in shack preamp	$139.00	124.95
KP-1/6M 6m in shack preamp	139.00	124.95
KP-1/2M 2m in shack preamp	139.00	124.95
KP-1/220 220 in shack preamp	139.00	124.95
KP-1/440 440 in shack preamp	139.00	124.95
KP-2/10M 10m mast mount preamp Δmwfv	195.00	159.95
KP-2/6M 6m mast mount preamp	195.00	174.95
KP-2/2M 2m mast mount preamp	195.00	174.95
KP-2/220 220 mast mount preamp Δmwfv	195.00	159.95
KP-2/440 440 mast mount preamp	195.00	174.95

WATTMETERS

MP-1 160-10m 25/200/2kw PEP wattmeter	$235.00	209.95
MP-2 6 & 2m 50/500/1.5kw PEP wattmeter	235.00	209.95
MP-3 420-450 5/50/500w PEP wattmeter	265.00	239.95
MP-4 1.2 GHz 1/10/100w PEP wattmeter	279.00	259.95

NCG (NCG)

BB-516 Motorcycle intercom set	$ 89.95	
BJP-514 Motorcycle earph/mic; Ali/Ico/Sta/Yae	69.95	
BJP-514K Motorcycle earphone/mic; Kenwood	69.95	
EN-921 Spkr/mic earpiece; Ali/Ico/Ken/Yae	44.95	
EN-921K Spkr/mic earpiece; Kenwood	44.95	
MC-910 Ear/bm mic w/cap-clip/ear hook; not Ken	49.95	
MC-910K Ear/bm mic w/cap-clip/ear hook; Ken HT	49.95	
MH-900P Ear/bm mic/PTT; all HT but Ken Dmwfv	39.95	
MH-900PK Earpiece/boom mic/PTT; Ken HT	39.95	
MP-28 Boom mic/headset/PTT; all HT but Ken	39.95	
MP-28K Boom mic/headset/PTT for Ken HT	39.95	
NCG-2050 1.6-60MHz 30/300/3kw meter	149.95	139.95
NCG-3000 118-530MHz 5/20/200w PEP meter	109.95	99.95
Power Pocket 12v 2AH lead acid belt batt/cgr	66.95	

NAVAL (NAV)

HTS-3 5-15vdc amplified speaker	$ 29.95	
MK-303 Earphone/PTT/mic; Icom HT's Δmfv	14.95	12.95

NEW WAVE (NEW)

Adventurer 12' extended Portaple alum mast m	$109.95
Traveler 19' extended Portaple alum mast .m	124.95
Rover 26' extended Portaple alum mast .....m	149.95
Expeditioner 33' extended Portaple alum mast m	174.95
Explorer 40' extended Portaple alum mast m	199.95
Big Foot Welded, unpainted park-on mt ..m	119.95

NORCOMM (NOR)

NC-101 Tunable CTCSS encoder	$ 19.95	
NC-104 Programmable CTCSS encoder	24.95	
NC-106 Prog CTCSS encoder/decoder	54.95	
NC-401 Sub-miniature DTMF decoder	59.95	
NC-409 DTMF encoder Δmw	59.95	49.95

NYE VIKING (NYE)

ANTENNA TUNERS AND ACCESSORIES

MBV-A 3kw tuner with ant switch & meters	$830.00	729.95
MBV-B As MBV-A, without meters	689.00	599.95
020-001 2kw low-pass filter	49.00	

MASTER KEY

330-001 Black enamel base w/cable, plug	$ 65.00

HEAVY DUTY SPEED-X KEYS WITH NAVY KNOBS

320-001 No shorting switch	$ 31.00
320-003 As above, w/shorting switch	36.00
322-001 Brass hardware, no switch	31.00
322-003 As above, w/shorting switch	36.00

STANDARD SPEED-X KEYS

310-001 Black, no shorting switch	$ 28.40
310-003 As above, w/shorting switch	33.50
312-001 Brass arm, no shorting switch	28.60
312-003 As above, w/shorting switch	33.50
315-003 Brass oval key, steel base, short sw	63.95

KEY ACCESSORY

013-001 Navy knob Δmv	$ 15.50	12.95

Oak Bay Technologies (OAK)

AM-101B BNC duck window mount	$ 24.95	
CA-232HH Handheld packet cable	34.95	
CA-232U Universal packet cable	34.95	
LP-11P 1.8-30 MHz 1kw low-pass filter	69.95	
LP-50 1.8-54 MHz 1kw low-pass filter	69.95	
PS-101 Hvy duty DC pwr strip/fuses Δmwfcv	84.95	79.95
PS-612M Hvy duty DC pwr strip w/breakers	64.95	

Optoelectronics (OPT)

8040 Multifunction 10-digt ctr/timer Dmwfv	$679.00	469.95
Cub 1 MHz - 2.8GHz 9-digit mini-ctr Δmwfcv	149.00	139.95
Optolinx PC-radio universal interface .Δmfcv	129.00	109.95
R-10 30-2000MHz FM Interceptor Δmwfcv	299.00	279.95
CF-802 Band pass filt/amp; 825-845 Δmfcv	149.00	119.95
Scout/400/Scout 10-2800 freq rec/ctr Δmwfcv	449.00	399.95
Clipmate Windshield mt; Scout/400 Δmwfcv	25.00	22.95
DB-32 Mini 1.75" ant for Scout/400 Δmwfv	29.00	
Spectrum FCC data CDROM/Scout prog Δmcv	29.00	19.95
SSB-220A SSB/gen purp 3GHz bench ctr Δmwfv	329.00	269.95
Antenna Pack 2 5 tuned ants; 26MHz-1GHz Δwfc	99.00	89.95
BHP-800 High pass receiving filter Δmwfcv	40.00	36.95
BLP-70 Low pass receiving filter Δmwfcv	40.00	36.95
CB-232 PC interface cable Δmwfcv	39.00	36.95
CC-30 Vinyl case for R-10//Scout/400 Δmfv	9.00	
N-100 FM broadcast band notch filt .Δmwfcv	99.00	79.95
Optolog Software; 8040/SSB-220A Δmwfcv	25.00	22.95
P-30 1X/10X switch probe; ctr/scope .Δmwfcv	35.00	32.95
TA-100S 100-600MHz tele whip ant Δmwfcv	12.00	10.95

OUTBACKER (OUT)

OB-8 300w PEP 6' 75-10m 8-band mobile ant	$279.00
OB-8HP 500w PEP 6' 75-10m 8-band mob ant	299.00
OB-S8 8-band 300w PEP split ant/storage bag	299.00
OB-8TRI 3-pc 300w PEP 6' 8-band port ant	329.00
OB-JR8 150w PEP 4' 75-10m 8-band Dmwfcv	229.00
Junior Plus 100w PEP 4' 75-10m+6/2m ant	269.00
Perth 150w PEP 7.5' 75-10m mobile ant	289.00
Perth Plus 150w PEP 75-10m+6m/2m mob ant	299.00
OB-M 300w PEP 6' 75/40/20/17/10m/HF marine	429.00
OB-360 Tnk mt/spring/coax; Perth/JR8/Perth Plus	99.00
OB-SB 3/8-24 spring and 1/2" hole base	99.00
Diamond **K-400-3/8C** 3/8-24 trunk mt, 6' coax	69.95
Diamond **C-110** 10' ext cable; K-400-3/8C	14.95

Palomar Engineers (PAL)

FER-2 RF ferrite toroid kit	$ 20.00
LA-1 Loop amplifier; matches loop to Rcvr	99.95
5-15 MHz plug-in loop (HF-1)	89.95
1.6-5 MHz plug-in loop (160m, 80m)	89.95
.55-1.6 MHz plug-in loop (AM broadcast)	89.95
150-550 KHz plug-in loop (LF, 1750m)	89.95
40-150 KHz plug-in loop (WWVB, Loran)	89.95
M-840 Bar graph HF auto SWR/power meter	199.95
PS-95 AC adapter for M-835/840	15.00
MDB-2 Mag dipole receiving balun Δmfv	39.95

PALOMAR ENG - continued

	Reg	Sale
MLB-1 Magnetic longwire receiving balun	39.95	
MSB-3 Magnetic switch receiving balun	135.00	129.95
P-405 1.8-54MHz 20db 9v Rcv preamp .Dmwv	149.95	69.95
P-408 1.8-54MHz 20db AC Rcvr preamp ..Dwfc	159.95	99.95
P-410X 160-6m 20db Xcvr preamp .....Dc	179.95	149.95
P-508 .2-30MHz 12v active Rcvr preamp	99.95	
PCM-1 1-30MHz RF current meter	135.00	129.95
PF-300 SC audio filter .....Dfv	159.95	99.95
PK-200 Jones dual-paddle key	189.95	179.95
PK-200B Brass Jones dual-paddle key	209.95	199.95
PK-203 Brass Jones single lever key	214.95	194.95
PK-205 Jones straight key	164.95	154.95
PT-340 Tuner-Tuner (use with ant tuner)	99.95	
RFI-3 RF interference kit	20.00	
RX-100 1-100 MHz RX noise bridge	89.95	
SMB-5 SmartBridge prog for AT computers	29.95	
SB-4 2kw 1.7-30 MHz 4:1 balun w/SO-239	89.95	
VLF-A VLF converter; 10-500 KHz to 80m	89.95	
VLF-S VLF conv; 10-500 KHz to 4-4.5 MHz	89.95	

PANASONIC (PAN)

RF-B45 Compact FM/LW/MW/SW port Rcvr	$199.95	169.95

PAR (PAR)

VHFDN152 Dual band notch filter	$ 62.00	
VHFDN152HT Dual band notch filter for HT	68.00	

PATCOMM (PAT)

PC-16000 HF Xcvr/digital modem/keyboard	1649.00	1449.95

PENETROX (PEN)

Penetrox A 4 oz tube for antennas	$ 7.95	

PERCON (PEC)

Spectrum* FCC database CDROM .....†	$ 29.95	19.95

* **$9.95** with purchase of any radio! Limited Time!

PERIPHEX (PER)

BP-3 8.4v 350ma battery for Icom	$ 39.00	
BP-7S 13.2v 1200ma battery for Icom	65.00	
BP-8 8.4v 1400ma battery for Icom	75.00	
BP-8S 9.6v 1400ma battery for Icom	65.00	
BP-83S 7.2v 800ma battery for Icom	43.50	
BP-84S 7.2v 1400ma battery for Icom	63.00	
BP-85S 12v 800ma battery for Icom	76.00	
BP-114S 12v 800ma battery for Icom	79.00	
BP-132 12v 600ma battery for Icom	54.00	
BP-132A 12v 600ma battery for Icom	54.00	
SAT Internal 7.2v 300ma int batt; IC-2SAT	25.00	
BP-3 Insert 8.4v 270ma insert; Icom BP-3	18.95	
CNB-152 12v 600ma battery for Standard	58.50	
CNB-153 7.2v 1100ma battery for Standard †	54.50	40.00
EBP-22S 12v 800ma battery for Alinco .....†	65.00	40.00
EBP-24S 7.2v 1500ma battery for Alinco	62.00	
EBP-34 4.8v 1200ma battery for Alinco	35.00	
EBP-34S 4.8v 1600ma battery for Alinco	49.00	
EBP-35 7.2v 900ma battery for Alinco	60.00	
EBP-36 9.6v 650ma battery for Alinco	55.00	
FNB-11 12v 800ma battery for Yaesu	58.50	
FNB-12 12v 600ma battery for Yaesu	54.50	
FNB-14 7.2v 1100ma battery for Yaesu	47.75	
FNB-14S 7.2v 1400ma battery for Yaesu	59.75	
FNB-26 7.2v 1100ma battery for Yaesu .....†	60.00	40.00
FNB-26S 7.2v 1400ma battery for Yaesu	65.00	
FNB-27 12v 600ma battery for Yaesu	60.00	
FNB-27S 12v 800ma battery for Yaesu	65.00	
FNB-33 4.8v 1400ma battery for Yaesu	53.25	
FNB-35 7.2v 600ma battery for Yaesu	49.00	
FNB-38 9.6v 650ma battery for Yaesu	66.90	
PB-1 12v 1000ma battery for Kenwood	64.00	
PB-7S 7.2v 1400ma battery for Kenwood	59.00	
PB-8S 12v 800ma battery for Kenwood	59.00	
PB-13S 7.2v 1200ma battery for Kenwood	49.75	
PB-14S 12v 400ma battery for Kenwood	60.00	
PB-17 12v 800ma battery for Kenwood	49.95	
PB-18 7.2v 1400ma battery for Kenwood	49.25	
PB-25S/26S 8.4v 1400ma battery; Kenwood	65.00	
PB-33 6v 1200ma battery for Kenwood .....†	49.00	40.00
PB-34 9.6v 600ma battery for Kenwood	54.00	

PERIPHEX - continued

	Reg	Sale
Santec ST-142 9.6v 600ma battery; ST-142	23.95	

PHILIPS (PHI)

U-105 Light duty rotor	$ 69.95	
TB-105 Thrust bearing	18.25	

PIPO TOUCH-TONE PADS (PIP)

PK-1 12-digit pad .....m	$ 71.00	
PK-1K 12-digit pad w/delay relay .....m	78.00	
PK-1M 12-digit pad for surface mtg .....m	71.00	
PK-2 16-digit pad .....m	76.00	
PK-2K 16-digit pad w/delay relay .....m	83.00	
PK-2M 16-digit pad for surface mtg .....m	76.00	
P-7V 12-digit vertical rugged mini pad .....m	58.00	

POLYPHASER (PLY)

LIGHTNING PROTECTION

IS-50NX-C2 125-1000 375/125/50w N flange	$ 56.95	
IS-50UX-C0 1.5-400 2kw/375/125w flange mt	56.95	
IS-50UX-C1 50-700MHz 375/125w flange mt.	56.95	
IS-B50LN-C2 125-1000 375/125/50w N bulkhead	59.95	
IS-B50LU-C0 1.5-400 2kw/375/125w bulkhead	59.95	
IS-B50LU-C1 50-700MHz 375/125w bulkhead mt	59.95	
IS-PLDO-120-15A 120v 15A power protector	172.95	
IS-PLDO-120-20A 120v 20A power protector	215.95	
IS-RCT 8-wire rotor control protector	54.95	
J-1 1/2" to 1 1/3" bronze transition clamp	8.95	
J-2 1 1/2" to 2 1/4" bronze transition clamp	11.95	
IS-SPTL Single phone line protector	57.95	
3" STRAP 3" copper strap .....linear ft.,Dmw	2.75	
6" STRAP 6" copper strap .....linear ft.,Dm	3.95	
CS112-25 25' 1½" copper strap	25.95	
CS112-50 50' 1½" copper strap	51.95	
CS112-75 75' 1½" copper strap	75.95	
CS112-100 100' 1½" copper strap	100.95	
CS3-25 25' 3" copper strap	51.95	
CS3-50 50' 3" copper strap	100.95	
CS3-75 75' 3" copper strap	150.95	
CS3-100 100' 3" copper strap	197.95	
CS6-25 25' 6" copper strap	100.95	
CS6-50 50' 6" copper strap	197.95	
CS6-75 75' 6" copper strap	299.95	
CS6-100 100' 6" copper strap	391.95	
CU-SPGP Copper single point ground panel	63.95	
TK-2 1½" strap to Rohn twr corrosion free clamp	5.95	
TK-3 1½" strap-2¼" to 3¾" mast corr free clamp	8.95	
1C-112S #6-#1 wire to 1½" strap clamp bond	10.95	
20C-112S #2-0 to #4-0 -1½" strap clamp bond Dmv	10.95	
58R-112S 1½" strap to 5/8" gnd rod clamp bond	12.95	
MSC-3 Junc; 2+ 1½" or 3" strap clamp bond	10.95	
UNI-KIT 2CT Gnd kit; coax to alum/tin/galv	29.95	
UNI-KIT 2TC Gnd kit; galv twr leg to copper	29.95	
UNI-KIT 2CC Ground kit; coax to copper	28.95	
UNI-KIT 2TT Ground kit; galv/alum-galv Δmv	30.95	24.95
CCK Copper cleaning kit; 4 oz can, brush	27.95	
GLEP Lightning and EMP Protection book	22.95	

PREMIER (ANL also see ADI)

A-200 2m/440 4.5/7.2db 6' base antenna	$ 86.95	
A-300 2m/440 6.8/9.3db 11.5' base ant	129.95	119.95
A-1000 2m/440 8.5/11.8db 17.5' base ant	159.95	149.95
AL-800 2m/440 32" BNC rubber duck ant	34.95	
RD-8 2m/440 6.5" BNC duck	17.95	
RD-9 2m/440/900 6" BNC duck	18.95	
RD-78 2m/440 15" BNC whip	22.95	
RD-98 2m/440 17" BNC whip	24.95	
CM-2 Clip mt w/BNC, coax .....Dmf	17.95	14.95
WA-1 Window/sun roof clip mt/BNC/cbl .....Dv	23.95	
AT-2A/Plus 2m/220 4.1/4.8 NMO mt mob Dmf	59.95	
AT-3 2m/440 2.15/3db 19" UHF mt mob ....Df	29.95	24.95
AT-4/UHF 2m/440 3/5.5db 38" UHF mt .....Dm	47.95	34.95
PNC-2 2m/440 3/5.5db 28" broadband mob	43.95	
PNC-4 2m/440 3/5.5db 40" fold-over mobile	43.95	
MC-1/UHF UHF-style mag mt w/coax ...Dwf	28.95	24.95
MC-2 Super suction & mag mt; NMO/UHF	37.95	
TA-1/NMO NMO-style trunk mt/coax ..Dmwf	28.95	
TA-1/UHF UHF-style trunk mt/coax ..Dmwfv	28.95	24.95
TA-2 Hvy duty rubber coated tnk lip mt; NMO/UHF	34.95	

PREMIER - continued

	Reg	Sale
DX-2 2m/440 450/300w dplxr/UHF .....Dmwfv	43.95	39.95
DX-2/Lead 2m/440 450/300w dplxr/lead .Dmwfv	46.95	39.95
DX-2MN 2m/440 450/300w dplxr/Nn . Dmwfv	43.95	34.95
DX-2MNL 2m/440 450/300w dplx/lead/N ... Dmfv	46.95	39.95
MT-1 2m/440 15/60w SWR/pwr meter Dmwfv	49.95	39.95
SB-752 12vdc 6.5A port batt power pack	59.95	
SB-791 5A ps w/cig outlet; not for radio ..Dm	29.95	9.95
TX-3 2m/440/900-1.2 800/800/200w triplxr Dmwfv	54.95	39.95

PRO AM by VALOR (VAL)

VHF/UHF ANTENNAS ONLY (No Mounts)

MO144-440 2m/440 antenna	$ 21.90	19.95
PAQA 136-515 MHz ¼ wave antenna	8.00	
PAQ-144 2m ¼ wave antenna	8.00	
PAQ-435 440 ¼ wave antenna	8.00	
PAQ-3820 2m ¼ wave whip w/⅜-24 thread	8.00	
PHB-144 2m ⅝ wave 3 db antenna	31.80	24.95
PHB-220 220 ⅝ wave 3 db antenna .....Δwf	31.80	6.95
PUB-440 440 5 db antenna .....Δmwfv	39.80	19.95

MOUNTS ONLY FOR ABOVE ANTENNAS

PAM Low profile magnet mount w/coax	$ 28.40	24.95
PAMB Black low profile mag mount w/coax	28.40	24.95
PAS ¾" surface mount w/coax	20.00	16.95
PASMO ¾" surface mt only (no coax)	7.90	
PAS38 ⅜" surface mount w/coax .....Δmwfv	20.00	9.95
PAS38MO ⅜" surface mt only (no coax) Δmwv	7.90	4.95
PAT-2 No hole trunk mount w/coax	27.90	22.95
PAT-2B Black no hole trunk mount w/coax	27.90	22.95
PAT-3 Swivel NMO-style trunk mt w/coax	35.80	29.95

OTHER VHF/UHF ANTENNAS & MOUNTS

77BNC 2m/440 12" 0/2.1db BNC rubber duck	$ 23.90	19.95
144BNC 2m 12" ¼ wave rubber duck w/BNC	11.00	9.95
220BNC 220 10" ¼ wave rubber duck w/BNC	11.00	9.95
450BNC 440 6½" ¼ wv rubber duck w/BNC	11.00	9.95
BNC-SC Suction cup extension; rubber ducks	22.60	14.95
WMSL-BNC Window clip for rubber ducks	42.80	29.95
82BNC Magnet mt for BNC w/coax	27.00	22.95
101ADN HD alum mirror mt w/SO-239	10.30	
301 ⅜-24 magnet mt only w/coax	25.40	19.95
401 Low profile ⅜-24 mag mt only w/coax	31.70	26.95
DAK Mt for 2 vert ants or horizontal dipole	13.80	
GM-100AD SS GM ⅜-24 mirror mt w/SO-239	9.60	
GM-270 2m/440 2.6/6.3db on glass antenna	59.95	39.95
TGMKD On glass replacement mtg kit	8.70	
MM-3401 Maxi-mag mt ⅜-24 kit (3-5" mags)	59.90	49.95
SS-100MOT 3-way NMO mirror mt w/coax	23.80	19.95
CX-144/CX-144B 2m ⅝ wave 3db ⅜-24 whip	17.90	14.95
CX-220 220 ⅝ wave 3 db ⅜-24 whip .....Δw	17.90	4.95
MM-270B 2m/440 mini mag mt ant w/BNC	56.60	39.95
PA-255 8' 2m/440 base antenna .....Δmwv	134.95	79.95
PAQM 144-450 MHz ¼ wave BNC mag ant	28.80	24.95
PM-144-440BN 2m/440 BNC mag mt ant	33.90	29.95
TGS 30-1200MHz on-glass scanner ant	48.20	39.95
VAA-002 144-450 MHz ¼ wave mag mt ant	23.80	19.95
VAA-002BN 144-450 MHz ¼ wv BNC mag ant	27.80	22.95
120 Sawtooth hump mt for mobile radios	7.80	
D-270 2m/440 100w duplexer	45.90	39.95
DB-240 2m/440 base station antenna	105.20	69.95

MOBILE HF ANTENNAS (No Mounts)

AB-5 75/40/20/15/10m antenna	$119.60	89.95
PHF-160 160m 8' ⅜-24 whip	97.80	69.95
PHF-75 75m 8' ⅜-24 whip (4' coil, 4' whip)	29.80	24.95
PHF-40 40m 8' ⅜-24 whip (4' coil, 4' whip)	23.80	19.95
PHF-30 30m 8' ⅜-24 whip (4' coil, 4' whip)	23.80	19.95
PHF-20 20m 8' ⅜-24 whip (4' coil, 4' whip)	23.80	19.95
PHF-17 17m 8' ⅜-24 whip (4' coil, 4' whip)	23.80	19.95
PHF-15 15m 8' ⅜-24 whip (4' coil, 4' whip)	23.80	19.95
PHF-12 12m 8' ⅜-24 whip (4' coil, 4' whip)	23.80	19.95
PHF-10 10m 8' ⅜-24 whip (4' coil, 4' whip)	23.80	19.95
PHF-6 6m 8' ⅜-24 whip (4' coil, 4' whip)	23.80	19.95

QSL Card Holders (ART)

QSL Card Holders, pack of 3, 20 cards/holder	$ 9.95	

Same Day Shipment - Use your Credit Card!

	Reg	Sale

RF APPLICATIONS (RFA)

P-1500 1.8-30 MHz digital power/SWR meter	$219.95	
P-1500-P Power supply for P-1500	16.95	
P-2000A 1.8-30 MHz dig power/SWR meter	299.00	
P-2000CW 1.8-30 MHz audible (CW) meter	249.95	
P-3000 Deluxe 1.8-30MHz digital power/SWR	299.00	
P-3000-P Power supply for P-3000, etc.	12.95	
Match Alert VSWR monitor/alarm	129.95	

RF CONCEPTS (RFC)

144 2m FM mini-amp 2/30w amplifier	$119.95	109.95
144P 2m FM mini-amp 2/30w amp/preamp	129.95	119.95
VHF1-60 2m 1/60w FM HT amplifier .Dmwfcv	249.95	199.95
2-23 2m FM/SSB 2/30w amp/pre .....Dmwfcv	149.95	119.95
MAX-AMP-10 2m FM/SSB 10/150w amp/preamp	349.95	319.95
MAX-AMP-45 2m FM/SSB 45/150w amp/preamp	319.95	289.95
2/70 2m/440 FM 3/30//5/20w,HT amp	259.95	239.95
2/70G 2m/440 FM 3/30//5/20w HT amp/preamp	289.95	259.95
3-22 220 FM/SSB 2/20w amp/preamp Dmwfv	149.95	119.95
3-211 220 FM/SSB 2/110w amp/pre ...Dmwfv	349.95	269.95
3-112 220 FM/SSB 10/120w amp/pre .Dmwfv	349.95	269.95
440 440 FM mini-amp 3/20w amplifier	139.95	129.95
440P 440 FM mini-amp 3/20w amp/preamp	159.95	149.95
UHF-50 440 3/50w FM HT type N amp ...Dmfv	299.95	249.95
4-32 440 FM 3/20w amp/preamp .....Dmwfv	159.95	129.95
4-110 440 FM 10/100w N amp/preamp	399.95	359.95
4-310 440 FM 30/100w N amp/preamp	369.95	339.95

RF LIMITED (RFL)

DF-4000 4kw PEP low pass filter	$159.95	129.95
DF-7000 7kw PEP low pass filter	179.95	149.95
DF-10000 10kw PEP low pass filter	199.95	179.95
HL-35NP 2m .5-5/20-35w Power Plus amp	89.95	79.95
HL-35V 2m .5-5/20-35w Power Plus amp/preamp	119.95	99.95
HL-62V 2m .5-10/6-60w Power Plus amp/pre	199.95	179.95
HL-36U 440 .5-12/30w Power Plus amp	259.95	229.95

RF PARTS (See Diamond)

RF PRODUCTS (RFP)

199-416 BNC mag mt, 10' coax w/BNC	$17.95	

RMS (RMS)

CN-220 1.8-225MHz 1.5kw PEP meter	$144.99	
PA-546 2m 5/45w amplifier	129.99	
W-450 140-170/430-470MHz 150w meter	69.99	

RACOM (RCO)

700 Automatic morse code identifier .....m	$92.00	
700-PC Programming kit .....m	30.00	

Radio Amateur Callbook (RAC)

058913 1997 North American Callbook	$39.95	
058905 1997 International Callbook	39.95	
077977 1997 World Radio TV Handbook	24.95	
RACD03 1997 No. Am/Int CD-ROM Callbook	49.95	

RADIO PUBLICATIONS

087034 All About Cubical Quad Antennas	$13.95	
087042 Beam Antenna Handbook	13.95	
087050 All About VHF Amateur Radio	13.95	
087069 Radio Amateur Antenna Handbook	13.95	
087077 Simple, Low Cost Wire Antennas	13.95	
087093 Interference Handbook	13.95	
087107 All About Vertical Antennas	13.95	

RAMSEY (RAM)

AA-7 Active antenna kit	$28.95	
AF-1 Hi-Q CW audio filter kit	34.95	
AR-1 Aircraft receiver kit	29.95	
CS-1 Crystal radio set kit	19.95	

JEFF, N9EDQ
Sales– Milwaukee Store

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RAMSEY - continued

	Reg	Sale
CW-7 CMOS keyer kit	24.95	
DF-1 Foxhound direction finder kit	59.95	
DN-1 Nicad conditioner/fast charger kit	49.95	
FM-1 300' FM broadcast transmitter kit	5.95	
FM-4 Hi power FM broadcast transmitter kit	14.95	
FR-1 FM broadcast receiver kit	24.95	
HR-20 20m receiver kit	29.95	
HR-40 40m receiver kit	29.95	
HR-80 80m receiver kit	29.95	
PR-10 2m preamp kit	17.95	
QRP-20 20m CW transmitter kit	29.95	
QRP-40 40m CW transmitter kit	29.95	
QRP-80 80m CW transmitter kit	29.95	
RFS-1 RF sensed switch kit	14.95	
SCA-1 SCA decoder kit	27.95	
SR-1 Shortwave receiver kit	29.95	
TS-1 CW touch paddle switch kit	6.95	
UT-5 Universal timer kit	8.95	
VS-1 Voice activated switch kit	6.95	
WA-10 BNC telescopic whip antenna	12.95	

RANGER (RAN)

RCI-2950 25w FM/SSB 10m Xcvr	$499.00	259.95
RCI-2970 100w FM/SSB 10m Xcvr	699.00	369.95
RCI-2980 25w FM/SSB 10m Xcvr w/ps	799.00	419.95
RCI-2990 100w FM/SSB 10m Xcvr w/ps	895.00	629.95

ROHN TOWERS (ROH)

HBX-40/BXB-6 40' tower, 10 sq ft, 228 lbs *T	$469.90	399.95
HBX-48/BXB-7 48' tower, 10 sq ft, 303 lbs *T	628.60	499.95
HBX-56/BXB-8 56' tower, 10 sq ft, 385 lbs *T	789.00	629.95
HDBX-40/BXB-7 40' tower, 18 sq ft, 281 lbs *T	584.60	469.95
HDBX-48/BXB-8 48' tower, 18 sq ft, 363 lbs *T	775.00	619.95

*Drop-shipped from factory or limited stock in Milwaukee for pick-up

On factory drop-shipments we prefer payment in full with order, however, we will accept your credit card with the understanding that we will process the charge when we order the merchandise from the factory. This means that you may be billed before you receive your drop-shipped merchandise. Shipment is FOB the Rohn factory, which has various locations, via truck, COD for freight charges only. Freight charges will be collected upon delivery by the carrier. Please allow sufficient time for delivery on these drop-shipped towers. Most truck lines will not unload the tower for you, so please be sure to have enough manpower and/or equipment on hand when your tower is delivered by the carrier.

Note: Rohn states that "antennas developing a large twisting moment due to wind must not be used on HBX/HDBX-series towers. Antennas should be limited to those having a maximum boom length of 10 ft.

SS040D70RTP 40' 70mph self supporting .*T	1760.80	1199
SS050D70RTP 50' 70mph self supporting .*T	2135.80	1439
SS060D70RTP 60' 70mph self supporting .*T	3110.80	2099
SS070D70RTP 70' 70mph self supporting .*T	3485.80	2269
SS080D70RTP 80' 70mph self supporting .*T	4635.80	3119
SS090D70RTP 90' 70mph self supporting .*T	5012.70	3369

*SS-series towers drop-shipped from factory only

Other Rohn Towers available on Special Order

ROSETTA (ROS)

WiNRADiO .5MHz-1.3GHz Rcv card/soft/cell blkd †	$699.95	639.95

SGC (SGC)

04-01 SG-2000 150w 1.8-30 MHz 12v Xcvr	1995.00	1479
04-01/54-12 SG-2000/SG-230 package .....†	2590.00	1599
04-10 SG-2000 Xcvr w/PowerTalk head	2895.00	2399
04-12 Remote kit w/swivel bkt & cable	200.00	179.95
04-13 Remote kit w/5-way mount & cable	350.00	319.95
04-14 Rem kit w/suction cup mt & cable	495.00	449.95
04-22 PowerTalk remote head	1095.00	929.95
51-82 Fan kit for continuous duty xmit	300.00	269.95
52-31 Waterproof military handset	375.00	339.95
52-32 Telephone handset	190.00	174.95
52-34 RS-232 interface; SG-2000 Xcvr	195.00	179.95
52-46 Mounting tray	50.00	
52-47 Shock/military mounting tray	300.00	269.95
52-51 CA-1 High voltage feed wire ..per ft.	70¢	
52-52 CA-2 RG-58 coax cable .....per ft.	90¢	
52-53 CA-230 Ant coupler cable .....per ft.	4.00	
52-54 CA-2000 Remote head cable .per ft.	4.00	
52-56 CA-4 RG-8A/U coax cable .....per ft.	1.10	
52-96 SG-500 1.8-24MHz 12v 500w PEP amp	1195.00	949.95
70-07 PowerClear add-on DSP unit	395.00	359.95
54-12 SG-230 150w 1.8-30 MHz 12v Smartuner	595.00	489.95

SGC - continued

	Reg	Sale
54-61 25' extension cable	60.00	
54-62 50' extension cable	90.00	
54-63 SmartLock; tuners made after 9/1/93	59.95	
54-15 SG-235 500w 1.8-30MHz 12v Smartuner	1595.00	1269.95
54-16 SmartPro 1.6-30 MHz 12v auto tuner	995.00	869.95
55-04 SG-103 1.8-30MHz 150w dipole .....†	450.00	195.00
55-06 SG-104 2-28 MHz 90' 1kw dipole	700.00	629.95
55-27 SG-303 1.8-30 9' mobile whip & mt	495.00	449.95
55-67 Replacement whip for SG-303	150.00	139.95
55-45 QMS Quick universal mount system	490.00	449.95
55-46 QMS-1 Quick mt system w/SG230 .Dm	1085.00	899.95
55-47 QMS-2 Quick mt sys w/SG-230/303/whip	1580.00	895.00
56-15 External ARQ/FEC system	1200.00	1069

SANGEAN (SAN)

ATS-202 AM/FM/shortwave portable receiver	$139.00	89.95
ATS-303 AM/FM/shortwave portable receiver	119.00	79.95
ATS-818 AM/FM/shortwave portable receiver	299.00	179.95
ATS-818CS AM/FM/SW port Rcvr w/cassette	359.00	229.95
ATS-909 AM/FM/shortwave portable receiver	389.00	299.95
DT-200V AM/FM/VHF TV sound dig port Rcvr	79.95	69.95

SEQUOIA (SEQ)

POCKET PC REF Pocket PC reference book	$14.95	
POCKET REF Pocket reference book	9.95	

SHURE (SHU)

526T Series II Dynamic amplified desk mic	$129.00	112.95
R96 Replacement cartridge	26.20	
R5F Replacement cartridge for 404C .... Δmf	30.20	19.95

SMILEY ANTENNA (SMI)

270A 2m/440 gain telescopic whip	$19.95	
5/8 SLD-2 2m ⅝ Slim Duck rubber ant	17.95	
5/8 SLD-220 220 ⅝ Slim Duck rubber ant	17.95	
5/8 SLD-440 440 ⅝ Slim Duck rubber ant	17.95	
5/8 SLD-2 Combo 2m ⅝ duck & stubby ant	24.95	
5/8 SLD-220 Combo 220 ⅝ duck & stubby ant	24.95	
5/8 SLD-440 Combo 440 ⅝ duck & stubby ant	24.95	
FLX 1/2 WAV-2M ½ wv 2m BNC whip/flex coil	25.95	
RD-2 2m rubber duck antenna	14.95	
RD-220 220 rubber duck antenna	14.95	
RDMD-2 2m mini rubber duck antenna	14.95	
RDMD-220 220 mini rubber duck antenna	14.95	
RDMD-440 440 mini rubber duck antenna	14.95	
RDS-2 2m stubby rubber duck antenna	14.95	
RDS-220 220 stubby rubber duck antenna	14.95	
RDS-440 440 stubby rubber duck antenna	14.95	
SD-2 2m Slim Duck thin rubber antenna	14.95	
SD-220 220 Slim Duck thin rubber antenna	14.95	
SL-440 440 slimline type duck	12.95	
SS-II Super Stick 2m ⅝ wv telescopic ant	19.95	
SS-III Super Stick 220 ⅝ wv telescopic ant	19.95	
SS-IV Super Stick 440 ⅝ wv telescopic ant	19.95	
SS-II/Combo 2m ⅝ wv telescopic & stubby ant	26.95	
SS-III/Combo 220 ⅝ wv telescopic & stubby ant	26.95	
SS-IV/Combo 440 ⅝ wv telescopic & stubby ant	26.95	
TAQ-2 2m ¼ wave stainless whip	10.95	
TAQ-220 220 ¼ wave stainless whip	10.95	
TAQ-440 440 ¼ wave stainless whip	10.95	
TS Thin Stick 2m/220 ⅜ wave telescopic whip	16.95	

SOLARCON (SOL)

A-99 10m fiberglass base station antenna	$74.95	59.95
GPK-1 Ground plane radial kit	39.95	

SOLDER-IT (SLD)

ALP-21D Alum solder paste, 7.1gm ..Δmwfcv	$6.00	
SP-7D Solder paste, 7.1 gm	6.00	

SONY (SON)

WebTV

INT-W100 WebTV Internet Terminal	$349.95	329.95
NO exports Sony WebTV		
RM-KW100 Wireless infrared keyboard	99.95	
RFU-W100 RF adaptor	49.95	

SHORTWAVE

ICF-SW15 AM/FM/SW port receiver .....Dmv	$89.95	49.95
ICF-2010 AM/FM/SW/LW/air port Rcvr w/ps	449.95	359.95

SONY - continued

		Reg	Sale
ICF-SW10	AM/FM/SW compact receiver	64.95	49.95
ICF-SW30	AM/FM/SW portable receiver	139.95	99.95
ICF-SW33	AM/FM/SW port receiver ...Dmwfcv	199.95	149.95
ICF-SW40	AM/FM/SW portable receiver	169.95	139.95
ICF-SW55	AM/FM/SW portable receiver	449.95	349.95
ICF-SW77	AM/FM/SW portable receiver	649.95	469.95
ICF-SW100S	AM/FM/SW portable receiver	479.95	349.95
ICF-SW1000T	AM/FM/SW port Rcvr w/cassette	699.95	569.95
ICF-SW7600G	AM/FM/SW portable receiver	239.95	199.95
AC-E60HG	6vdc 400ma AC adapter	22.99	
AN-1	LW/MW/SW outdoor active rcv ant	119.95	99.95
AN-3	Aircraft active receive ant .....Δmwfv	99.95	69.95
AN-102	LW/MW/SW indoor active rcv ant	89.95	79.95
FDT-5BX5	5" color AC/DC television .....Dm		199.95

SOUTH RIVER (UPS OK) (SOU)

HDT-3E-PPK	3' boxed tripod .....Δm	$ 19.95	16.95
HDT-5E-PPK	5' boxed tripod .....Δmw	29.95	

STANDARD (STA)

C-156A	2m FM HT w/AA battery holder	$289.00	199.95
CAW-151B	12vdc power supply cable	18.50	
CAW-152B	Cig cord w/filter	28.50	
CHP-111	Headset mic w/PTT switch	48.00	
CHP-150	Headset mic w/VOX	87.50	
CMB-600	Helmet clip for CHP-150	14.50	
CLC-157	Soft case; CNB-157	23.00	
CMB-112	Mounting bracket	27.50	
CMC-150	Mobile charger	28.00	
CMP-111	Speaker/mic	58.00	
CMP-113	Tie-pin spkr/mic	48.00	
CMP-115	Mini speaker/mic	53.00	
CNB-155	4.8v 600ma 2.5w nicad battery	30.00	
CNB-156	6v 600ma 2.5w nicad battery	33.00	
CNB-157	9.6v 600ma 5w nicad battery	42.00	
CNB-158	6v 1200ma 2.5w nicad battery	44.00	
CTN-115	CTCSS decoder	70.00	
CWC-156A	Wall cgr; CNB155/156/157/158	9.50	
C-178A	2m/440 FM HT/batt/cgr/TTP/CTCSS	459.00	399.95
	FREE CMP-115 from Standard - C-178A thru 1/5/97		
C-228A	2m/220 FM HT/batt/cgr/TTP/CTCSS	695.00	599.95
	$30 coupon - C-228A thru 1/5/97 OR		
	FREE CMP-115 from Standard - C-228A thru 1/5/97		
C-528A	2m/440 FM HT/batt/cgr/TTP/CTCSS	495.00	439.95
	$25 coupon - C-528A thru 1/5/97 OR		
	FREE CMP-115 from Standard - C-528A thru 1/5/97		
C-558A	2m/440 FM HT/batt/cgr/TTP/CTCSS	665.00	549.95
	$30 coupon - C-558A thru 1/5/97 OR		
	FREE CMP-115 from Standard - C-558A thru 1/5/97		
C-568A	2m/440/1.2 FM HT/batt/cgr/TTP/CTCSS	699.00	599.95
C-628A	440/1.2 FM HT/batt/cgr/TTP/CTCSS	727.00	669.95
CAX-02	Bottom cover	12.50	
CAX-03	Bottom cover	12.50	
CAW-150	Mobile power supply cable	18.00	
CAW-151	12vdc power supply cable	14.50	
CAW-152	Cig cord w/filter	30.50	
CBT-151	Battery case	22.00	
CBT-171	6 cell battery case	21.00	
CBT-175	2 cell battery case .....Δmwfcv	17.00	14.95
CHP-111	Headset mic w/PTT switch	48.00	
CHP-150	Headset mic w/VOX	87.50	
CMB-600	Helmet clip for CHP-150	14.50	
CLC-151	Reg case; C-158A/CNB-151 ...Δm	25.00	19.95
CLC-152	Lrg case; C158A/CNB152/153 Δm	26.00	19.95
CLC-171	Soft case for CNB-171	30.00	
CLC-172	Soft case for CNB-172/173	30.00	
CLC-175	Soft case for CBT-175	30.00	
CLC-520	Std carrying case; 228A/528A	26.00	
CLC-521	Large carrying case; 228A/528A	29.00	
CLC-550	Standard carrying case; 558A	29.00	
CLC-551	Large carrying case; 558A	31.00	
CLC-550R	Orange carrying case	35.00	
CLC-560	Case; CBT-171/CNB-171; C-568A	27.00	
CLC-561	Case; CNB-172/173 with C-568A	27.00	
CLC-562	Leather case; CBT-171/CNB-171	52.00	
CMB-111	Mobile bracket	22.00	
CMB-112	Mounting bracket	27.50	
CMC-150	Mobile charger	28.00	
CMP-111	Speaker/mic	58.00	

STANDARD - continued

		Reg	Sale
CMP-113	Tie-pin spkr/mic	48.00	
CMP-115	Mini speaker/mic	53.00	
CMP-123	Ear phone spkr/mic	63.00	
CMU-160	40 ch mem; 558A/168A .....Δmfv	33.00	9.95
CMU-161	200 channel memory	48.00	
CNB-151	Extra 7.2v 700ma nicad batt	82.00	
CNB-152	12v 600ma nicad battery	99.00	
CNB-153	7.2v 1000ma nicad battery	99.00	
CNB-171	7.2v 700ma nicad battery	80.00	
CNB-172	12v 600ma nicad battery	127.00	119.95
CNB-173	7.2v 1100ma nicad battery	99.00	94.95
CSA-181A	Desk rapid charger	128.00	119.95
CTN-520	Enc/decode; early 228/528A ...Δw	96.00	39.95
C-168A	Dlx sub-mini 2m FM HT/batt/cgr/TTP	469.00	309.95
C-468A	Dlx sub-mini 440 HT/batt/cgr/TT Δmwfv	480.00	319.95
	FREE CMP-115 from Standard - C-468A thru 1/5/97		
CAX-03	Bottom cover	12.50	
CAX-160	Remote battery adapter .....Δmwf	52.00	14.95
CBT-160	Battery case	21.00	
CHP-111	Headset mic w/PTT switch	48.00	
CHP-150	Headset mic w/VOX	87.50	
CLC-160	Mini carrying case	26.50	
CLC-161	Mini carrying case	27.50	
CLC-162	Mini carrying case	28.00	
CMP-111	Speaker/mic	58.00	
CMP-113	Tie-pin spkr/mic	48.00	
CMP-115	Mini speaker/mic	53.00	
CMP-123	Ear phone spkr/mic	63.00	
CMU-161	200 channel memory	48.00	
CNB-160	Mini 6v 300ma nicad batt Δmwfv	72.00	34.95
CNB-161	Mini 7.2v 700ma nicad battery	78.00	
CNB-162	Mini 12v 600ma nicad battery	130.00	119.95
CNB-163	Mini 7.2v 1000ma nicad batt	95.00	
CSA-181A	Desk rapid charger	128.00	119.95
C-288A	Thin sub-mini 220 HT/batt/cgr/TTP	449.00	369.95
CBT-181	Battery case for 4 AA	18.00	
CBT-182	Battery case for 5 AA	28.00	
CHP-111	Headset mic w/PTT switch	48.00	
CHP-150	Headset mic w/VOX	87.50	
CLC-181	Carrying case w/CNB-181	23.00	
CLC-182	Carrying case w/CNB-182/3/4	25.00	
CMA-181	Mobile adapter	42.00	
CMP-111	Speaker/mic	58.00	
CMP-113	Tie-pin spkr/mic	48.00	
CMP-115	Mini speaker/mic	53.00	
CMP-123	Ear phone spkr/mic	63.00	
CMU-182	200 ch memory for C-188A/288A	48.00	
CNB-181	4.8v 700ma nicad battery	59.00	
CNB-182	9.6v 600ma nicad battery	115.00	104.95
CNB-183	6v 1100ma nicad battery	97.00	92.95
CNB-184	6v 700ma nicad battery	69.00	
CSA-181A	Desk rapid charger	128.00	119.95
C-108A	200mw 2m FM HT	269.00	224.95
	$20 coupon - C-108A thru 1/5/97 OR		
	FREE CMP-115 from Standard - C-108A thru 1/5/97		
C-508A	280mw 2m/440 FM HT	345.00	284.95
CBH-160	Molded belt clip	12.50	
CHP-111	Headset mic w/PTT switch	48.00	
CHP-150	Headset mic w/VOX	87.50	
CLC-401	Standard soft case; C-108A	16.00	
CLC-402	Dlx soft case w/belt loop; C-108A	23.00	
CLC-502	Standard soft case; C-508A	18.00	
CLC-503	Deluxe soft case; C-108A/508A	19.00	
CMP-111	Speaker/mic	58.00	
CMP-113	Tie-pin spkr/mic	48.00	
CMP-115	Mini speaker/mic	53.00	
CMP-123	Ear phone spkr/mic	63.00	
CNB-401	Nicad battery	22.00	
CSA-401A	Desk charger	48.00	
C-1208DA	50w 2m FM Xcvr w/TTP	549.00	479.95
CAW-561	6.5' mic extension cable	36.00	
CAW-562	13' mic extension cable	48.00	
C-5718DA	50/40w 2m/440 FM Xcvr/packet	849.00	719.95
CAW-570	Split cable for microphone	63.00	
CAW-571	6.5' mic extension cable	49.00	
CAW-572	13' mic extension cable	54.00	
CAW-579	Packet cable	32.00	
CRC-5700	Front panel w/freq display	239.00	219.95
CAW-573	6.5' front panel extension cable	28.00	

STANDARD - continued

		Reg	Sale
CAW-574	13' front panel extension cable	39.00	
C-5900DA	45w 6m/50w 2m/35w 440 FM/TTP	1049.00	889.95
CAW-590	Split cable for mic	55.00	
CAW-591	10' extension cable; LCD display	40.00	
CAW-592	16' extension cable; mic/speaker	57.00	
CAW-593	26' extension cable; mic/speaker	74.00	
CMB-5900	Mounting bracket for display	27.00	
CMU-161	200 channel memory	48.00	
CSK-12	External speaker	47.00	
CCR-708A	50-905MHz spectral disp Rcvr/cell blkd	750.00	

STARTEK (STR)

1350	1-1300 MHz frequency counter	$129.00	119.95
ATH-10	1-1200 MHz freq counter w/ATH	159.00	139.95
ATH-15	1-1500MHz bar graph freq counter	235.00	179.95
ATH-15/OS	1-1500Mhz ctr w/1-shot opt ....Δm	275.00	199.95
ATH-15/OS/HS	1500MHz/1-shot/hi stab ..Δm	335.00	249.95
ATH-30	1-2800MHz bar graph ctr w/1-shot	299.00	239.95
ATH-30/HS	2800MHz/1-shot/hi-stability	399.00	339.95
ATH-50	5Hz-2800MHz bar/auto trig/hi speed	339.00	289.95
ATH-50/HS	2800MHzr/trig/hi spd/hi stability	439.00	389.95
APA-9/VPA-9	9vdc auto power adapter	6.00	
RD-2750	27-50MHz rubber duck antenna	19.00	
RD-150	150MHz rubber duck antenna	16.00	
RD-450	450MHz rubber duck antenna	16.00	
RD-800	800MHz rubber duck antenna	16.00	
TA-90	Telescopic antenna	12.00	
TA-90L	Right angle telescopic antenna	16.00	
DC-5	BNC to clip leads cable	12.00	
M-207-IC	Interface cable	10.00	
CC-90	Carrying case	12.00	
BP-150	130 - 500 MHz bandpass filter	49.00	
HP-400	400 - 1500 MHz bandpass filter	49.00	
HP-800	800 MHz - 2 GHz bandpass filter	49.00	
LP-60	DC - 60 MHz bandpass filter	49.00	
DC-10	Direct probe	22.00	
LP-22	Lo-pass probe .....Δmwfv	29.00	24.95
P-110	200 MHz X1-X10 probe	69.00	39.95

SWIECH (SWE)

COY2M3EL	3 element 2m beam .....m	$ 64.95	

TAB Books (TAB)

447748	Shortwave Listener's Q & A Book	$ 14.95	
633626	Radio Amateur's Digital Comm Handbook	14.95	
640967	Amateur Radio Encyclopedia	29.95	
641351	Shortwave Radio Listening for Beginners	12.95	
643478	Complete SW Listener's Handbook	21.95	
643540	Beginner's Handbook of Amateur Radio	22.95	
765340	Build Your Own Shortwave Antennas	16.95	

TIMEWAVE (TIM)

DSP-9	Digital signal processing unit	$169.00	159.95
DSP-9 PLUS	Advanced dig sig processing unit	209.00	199.95
DSP-59 PLUS	Dlx dig signal processing unit	269.00	259.95
DSP-599zx	All-mode DSP noise filter	379.00	369.95
DSP-59Y	DSP filter module for Yaesu SP-5/6	389.00	379.95
Upgrade 3.0	DSP-9 to ver 3.0 upgrade kit ..m	30.00	

TRIPP LITE (TRI)

PR-7	5A power supply, 7A surge	$ 55.00	47.95
PR-10	7.5A power supply, 10A surge	79.00	63.95
PR-12	9A power supply, 12A surge	85.00	68.95
PR-20	16A power supply, 20A surge	125.00	94.95
PR-30	24A power supply, 30A surge	172.00	129.95
PR-40	32A power supply, 40A surge	211.00	166.95
PR-50	37A power supply, 50A surge	262.00	199.95
PR-60	48A power supply, 60A surge	309.00	237.95
TL-11	Trim Line small low prof 8A ps, 11A surge	85.00	69.95
TLC-11	Trim Line lg low prof 8A ps, 11A surge	97.00	79.95
BC PERS-280	Standby UPS 280VA, 2 outlets	129.00	119.95

TOP TRADES

for late model SSB & FM gear

Upgrade Now – Call for our Quote Today!

TRIPP LITE - continued

	Reg	Sale
BC PERS-420 Standby UPS 420VA, 2 outlets	175.00	159.95
BC INTERNET-325 Stdby UPS 325VA, net protect	165.00	149.95
BC INTERNET-450 Stdby UPS 450VA, net protect	199.00	179.95
BC INTERNET-675 Stdby UPS 675VA, net protect	299.00	269.95
IBAR-12 Rack mt 12 outlet surge suppressor	149.00	99.95
ISOBAR-4 4 outlet premium surge suppressor	79.95	49.95
ISOBAR-6 6 outlet premium surge suppressor	99.95	59.95
ISOBAR-8 ULTRA 8 outlet surge suppressor/LEDs	116.95	79.95
MT-6+ 6 outlet console surge suppressor	149.95	99.95
SUPER-7 7 outlet surge suppressor	27.95	23.95
SUPER-7+TEL 7 outlet/fax modem surge	38.50	29.95
TR-6 Surge Alert 6 outlet super suppressor	59.95	46.95
TR-6FM Surge Alert+Tel 6 out super suppressor	69.95	54.95

TUBES (TUB)

6146B Tube	each	$ 14.95
12BY7A Tube	each	12.95
3-500G High dissipation tube (3-500Z)	each	109.95
572B For Yaesu, etc.	each	49.95
811A For Collins, etc.	each	14.95

Also see EIMAC

TUNE BELT (TUN)

HH-1PS Up to 5" HT radio belt		$ 19.95
HH-1PM Up to 6" HT radio belt		19.95
HH-1PL Up to 7" HT radio belt		19.95
HH-2PM Up to 6" HT radio belt w/batt pocket		21.95
HH-2PL Up to 8" HT radio belt w/batt pocket		21.95

US TOWER (UST)

FREE STANDING CRANK-UPS (T²X not recommended)

TX-438 38' crank-up tower	T	1133.00	1019
TX-455 55' crank-up tower	T	1710.00	1499
TX-472 72' crank-up tower	T	2810.00	2529
TX-472MDP 72' crank-up w/motor drive	T	4521.00	4068
TX-489 89' crank-up tower	T	4888.00	4399
TX-489MDPL 89' crank-up w/motor drive	T	7332.00	6598

FREE STANDING HEAVY DUTY CRANK-UP TOWERS

HDX-538 38' crank-up tower	T	1466.00	1319
HDX-555 55' crank-up tower	T	2566.00	2309
HDX-572 72' crank-up tower	T	4399.00	3959
HDX-572MDPL 72' crank-up w/motor drive	T	6721.00	6048
HDX-589MDPL 89' crank-up w/motor drive	T	8799.00	7919
HDX-689MDPL 89' HD crank-up w/motor	T	16999.00	15299
HDX-5106MDPL 106' HD crank-up w/motor	T	18499.00	16649

COMPACT TMM (Top mount rotor for full retraction)

TMM-433SS 33' crank-up tower	T	1210.00	1089
TMM-433HD 33' HD crank-up tower	T	1466.00	1319
TMM-541SS 41' crank-up tower	T	1588.00	1429

ACCESSORIES FOR CRANK-UP TOWERS

CX-2 Coax arms (2) for 2-section tower		$ 49.00	
CX-3 Coax arms (3) for 3-section tower		69.00	
CX-4 Coax arms (4) for 4-section tower		109.00	
CX-5 Coax arms (5) for 5-section tower		149.00	134
CX-6 Coax arms (6) for 6-section tower		189.00	170
HDP Service platform	T	739.00	665
STS-4 Rotor accessory for TX/TMM towers	T	210.00	189
IV-16 Inverted vee arm for MA's		37.00	
M-5 2" OD 5' mast extension for MA's		36.00	
M-10 2" OD 10' mast	T	69.00	
M-15 2" OD 15' mast	T	103.00	
M-20 2" OD 20' mast	T	136.00	122
M-15R 2" OD 15' reinforced mast	T	155.00	140
M-20R 2" OD 20' reinforced mast	T	205.00	184
CM-20 2" OD 20' .375 wall mast	T	449.00	404
MD-75 Heavy duty 1 HP motor drive	T	989.00	890
MDP-750 Pull-down drive; TX-472/HDX-555	T	1539.00	1385
MDPL-1000 Pull-down drive; HDX-572	T	2089.00	1880
MRF Mast raising fixture		266.00	239

ED, N8FIN
Sales– Wickliffe, OH Store

AES® has the Edge because we Service What we Sell!

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US TOWER - continued

		Reg	Sale
MCL-100 Limit switch package		432.00	388
RMC-1000 Remote control w/limit switch		989.00	890
RP-3 Rotor plate for 10" section		20.00	
RP-4 Rotor plate for 12½" section		26.00	
RP-5 Rotor plate for 15" section		32.00	
TRX-80 Raising fixture; TX-438/455;HDX-538/555	T	431.00	387
TRX-80HD Raising fixture;TX-472/489;HDX-572/589	T	567.00	510
TRX-100HD Raising fixture; HDX-689/5106	T	799.00	719
TB-2US Thrust bearing; 2" mast w/2 flange holes		98.00	

MA-SERIES TUBULAR TOWERS

MA-40 40' crank-up mast	†T	$899.00	679
MA-550 55' crank-up mast	†T	1521.00	1069
MA-550MDP 55' crank-up mast w/motor	T	2909.00	2618
MA-770 70' crank-up mast	T	2509.00	2258
MA-770MDP 70' crank up mast w/motor	T	3969.00	3572
MA-850MDP 85' crank-up mast w/motor	T	5349.00	4814

MA-SERIES ACCESSORIES

CX-2M Coax arms (2) for MA-40		$ 53.00	
CX-3M Coax arms (3) for MA-550		79.00	
CX-4M Coax arms (4) for MA-770		132.00	119
CX-5M Coax arms (5) for MA-850		159.00	143
MAB-40 Hinged base for MA-40	T	359.00	323
MAB-550 Hinged base for MA-550	T	429.00	386
MAB-770 Hinged base for MA-770	T	519.00	467
MAB-850 Hinged base for MA-850	T	629.00	566
MAF-40 Raising fixture for MA-40		220.00	198
MAF-550 Raising fixture for MA-550	T	304.00	273
MAF-770 Raising fixture for MA-770	T	309.00	278
MAF-850 Raising fixture for MA-850	T	409.00	368
MARB-40 Rotor base accessory for MA-40	T	549.00	494
MARB-550 Rotor base accessory for MA-550	T	649.00	584
MARB-770 Rotor base accessory for MA-770	T	769.00	692
MARB-850 Rotor base accessory for MA-850	T	909.00	818

All US TOWER products are drop-shipped (shipped direct to you from the US TOWER factory). On these factory drop-shipments we prefer payment in full with order, however, we will accept your credit card with the understanding that we will process the charge when we order the merchandise from the factory. This means that you may be billed before you receive your drop-shipped merchandise. Shipment is FOB Visalia, California via truck, COD for freight charges only. Freight charges will be collected upon delivery by the carrier. Please allow sufficient time for delivery on these special order products. Most truck lines will not unload the tower for you, so please be sure to have enough manpower and/or equipment on hand when your tower is delivered by the carrier.

UNADILLA (See W2AU)

UNIDEN (UNI)

HR-2510 25w 10m FM/SSB Xcvr	Dmwfcv	$459.95	229.95

Unified Microsystems (UNM)

W9XT Contest card for IBM PC & compatible		$149.95	139.95

Universal Towers (UNT)

4-30 4 sq ft wind load 30' alum tower	T	$335.00	302
9-30 9 sq ft wind load 30' alum tower	T	451.00	406
12-30 12 sq ft wind load 30' alum tower	T	593.00	534
21-30 21 sq ft wind load 30' alum tower	T	704.00	634
23-30 23 sq ft wind load 30' alum tower	T	932.00	839
35-30 35 sq ft wind load 30' alum tower	T	1050.00	945
4-40 4 sq ft wind load 40' alum tower	T	562.00	506
7-40 7 sq ft wind load 40' alum tower	T	706.00	635
9-40 9 sq ft wind load 40' alum tower	T	787.00	708
12-40 12 sq ft wind load 40' alum tower	T	932.00	839
15-40 15 sq ft wind load 40' alum tower	T	1042.00	938
21-40 21 sq ft wind load 40' alum tower	T	1157.00	1041
23-40 23 sq ft wind load 40' alum tower	T	1385.00	1247
4-50 4 sq ft wind load 50' alum tower	T	792.00	713
5-50 5 sq ft wind load 50' alum tower	T	900.00	810
7-50 7 sq ft wind load 50' alum tower	T	1013.00	912
9-50 9 sq ft wind load 50' alum tower	T	1126.00	1013
15-50 15 sq ft wind load 50' alum tower	T	1496.00	1346
16-50 16 sq ft wind load 50' alum tower	T	1614.00	1453
4-60 4 sq ft wind load 60' alum tower	T	1127.00	1014
6-60 6 sq ft wind load 60' alum tower	T	1382.00	1244
7-60 7 sq ft wind load 60' alum tower	T	1471.00	1324
9-60 9 sq ft wind load 60' alum tower	T	1577.00	1419
3-70 3 sq ft wind load 70' alum tower	T	1469.00	1322

UNIVERSAL - continued

		Reg	Sale
4-70 4 sq ft wind load 70' alum tower	T	1805.00	1625
6-70 6 sq ft wind load 70' alum tower	T	1838.00	1654
7-70 7 sq ft wind load 70' alum tower	T	1922.00	1729
3-80 3 sq ft wind load 80' alum tower	T	1920.00	1728
4-80 4 sq ft wind load 80' alum tower	T	2293.00	2064
2-90 2 sq ft wind load 90' alum tower	T	2375.00	2138
B-14 Base for tower		60.58	55
B-18 Base for tower		60.58	55
B-22 Base for tower		106.04	95
B-26 Base for tower		136.33	123
RFM-14 Flat roof mt for guyed tower		42.32	38
RFM-18 Flat roof mt for guyed tower		66.69	60
RFM-22 Flat roof mt for guyed tower		99.96	90
RFM-26 Flat roof mt for guyed tower		133.33	120
R-11 Rotor mount		30.27	27
R-14 Rotor mount		45.33	41
R-18 Rotor mount		60.58	55

SEE LITERATURE FOR CONFIGURATION OF TOWERS

11 Top 11" top tower section	T	113.66	102
14 Top 14" top tower section	T	143.22	129
18 Top 18" top tower section	T	259.72	234
14 Taper 14" taper tower section	T	126.00	113
18 Taper 18" taper tower section	T	226.00	203
22 Taper 22" taper tower section	T	337.00	303
26 Taper 26" taper tower section	T	453.00	408
11 Straight 11" straight tower section	T	112.00	101
14 Straight 14" straight tower section	T	126.00	113
18 Straight 18" straight tower section	T	226.00	203
22 Straight 22" straight tower section	T	337.00	303
26 Straight 26" straight tower section	T	453.00	408
HD35-40 35 sq ft wind load 40' alum tower	T	1616.00	1454
HD21-50 21 sq ft wind load 50' alum tower	T	1724.00	1552
HD9-60 9 sq ft wind load 60' alum tower	T	1808.00	1627
HD16-60 16 sq ft wind load 60' alum tower	T	2178.00	1960
HD21-60 21 sq ft wind load 60' alum tower	T	2295.00	2065
HD8-70 8 sq ft wind load 70' alum tower	T	2034.00	1831
HD12-70 12 sq ft wind load 70' alum tower	T	2519.00	2267
HD17-70 17 sq ft wind load 70' alum tower	T	2749.00	2474
HD21-70 21 sq ft wind load 70' alum tower	T	2864.00	2578
HD8-80 8 sq ft wind load 80' alum tower	T	2603.00	2343
HD9-80 9 sq ft wind load 80' alum tower	T	2716.00	2444
HD11-80 11 sq ft wind load 80' alum tower	T	3085.00	2777
HD12-80 12 sq ft wind load 80' alum tower	T	3090.00	2781
HD16-80 16 sq ft wind load 80' alum tower	T	3317.00	2985
HD4-90 4 sq ft wind load 90' alum tower	T	2710.00	2439
HD8-90 8 sq ft wind load 90' alum tower	T	3198.00	2878
HD11-90 11 sq ft wind load 90' alum tower	T	3656.00	3290
HD4-100 4 sq ft wind load 100' alum tower	T	3630.00	3267
HD8-100 8 sq ft wind load 100' alum tower	T	3884.00	3496
B-30 Base for HD tower		212.57	191
RFM-30 Flat roof mt for guyed tower		186.52	168
1-5/8SC Flange bearing		90.70	81
2-3/16SC Flange bearing		116.52	104
Top Plate Flange plate welded to top section		21.24	19

SEE LITERATURE FOR CONFIGURATION OF TOWERS

30 Taper 30" taper tower section	T	570.00	513
30 Straight 30" straight tower section	T	570.00	513
1-1/4" OD x 10 ft aluminum mast	T	30.27	27
1-1/2" OD x 10 ft aluminum mast	T	37.84	34
2" OD x 8 ft aluminum mast		45.41	41
2" OD x 16 ft aluminum mast	T	90.88	82

All UNIVERSAL TOWERS products are drop-shipped (shipped direct to you from the UNIVERSAL TOWERS factory). On these factory drop-shipments we prefer payment in full with order, however, we will accept your credit card with the understanding that we will process the charge when we order the merchandise from the factory. This means that you may be billed before you receive your drop-shipped merchandise. Shipment is FOB Mt. Clemens, Michigan via truck, COD for freight charges only. Freight charges will be collected upon delivery by the carrier. Please allow sufficient time for delivery on these special order products. Most truck lines will not unload the tower for you, so please be sure to have enough manpower and/or equipment on hand when your tower is delivered by the carrier.

	Reg	Sale
VALOR (See PRO AM)		
VANCO (VCO)		
SWR-1 SWR/field strength meter	$ 36.14	19.95
SWR-2 SWR/power meter ....Δwfcv	50.15	29.95
SWR-3 Mini SWR meter	21.68	14.95
VAN GORDEN (VAN)		
Hi-Q 1:1 balun	$ 14.95	
Hi-Q 4:1 balun	14.95	
Antenna center insulator	6.95	
Antenna end insulator ....each	3.95	
Dog bone type antenna insulator ....each	.55	
NR-100 Nylon antenna guy rope ....100 ft.	4.49	
NR-1,000 Nylon ant guy rope ....1,000 ft.	43.95	39.95
D-80 80m wire dipole antenna	31.95	
SD-80 Short 80m dipole	35.95	
D-40 40m wire dipole antenna	28.95	
SD-40 Short 40m dipole	33.95	
D-20 20m wire dipole antenna	27.95	
D-15 15m wire dipole antenna	26.95	
D-10 10m wire dipole antenna	25.95	
All Bander Dipole 160-10m (w/tuner) 135' ant	29.95	
Shorty All Bander 160-10m (w/tuner) 70' ant	44.95	
G5RV Flat-top 5-band 102' antenna w/cable	50.00	
N connector Type N connector for 9913	4.95	
450 ohm 18ga solid ladderline ....**100** ft.	12.00	
450 ohm 18ga solid ladderline ....**1,000** ft.	110.00	99.95
RG-213 Non-contaminating ....per ft.		46¢
RG-213/500 Non-contaminating ..500 ft. Roll	199.95	179.95
8X-3ST 3' RG-8X coax/silver teflon PL259s	8.50	
8X-6ST 6' RG-8X coax/silver teflon PL259s	10.00	
8X-12ST 12' RG-8X coax/silver teflon PL259s	11.00	
8X-25ST 25' RG-8X coax/silver teflon PL259s	15.50	
8X-50ST 50' RG-8X coax/silver teflon PL259s	24.00	
8X-75ST 75' RG-8X coax/silver teflon PL259s	31.00	
8X-100ST 100' RG-8X coax/silver teflon PL259s	37.00	
213-3ST 3' RG-213 coax/silver teflon PL259s	11.00	
213-6ST 6' RG-213 coax/silver teflon PL259s	14.00	
213-12ST 12' RG-213 coax/silver teflon PL259s	18.00	
213-25ST 25' RG-213 coax/silver teflon PL259s	25.00	
213-50ST 50' RG-213 coax/silver teflon PL259s	38.00	
213-75ST 75' RG-213 coax/silver teflon PL259s	54.00	
213-100ST 100' RG-213 coax/silver teflon PL259s	72.00	
VECTRONICS (VEC)		
VC-300M 300w mobile antenna tuner	$139.95	119.95
VC-300DLP 300w antenna tuner	169.95	144.95
VC-300D 300w digital antenna tuner	219.95	186.95
HFT-1500 1.5kw antenna tuner	459.95	389.95
AT-100 .3-30 MHz active antenna/tuner ....m	89.95	74.95
HF-600QSK 1kw HF amplifier w/QSK ....Dm	1995.00	1449.95
HPF-1 High pass filter	19.95	17.95
LP-30 1.5kw low pass filter	69.95	59.95
LP-2500 2.5kw low pass filter	139.95	119.95
CK-200 Deluxe keyer ....Δm	89.95	64.95
DL-300M 300w dummy load ....Δmwfv	44.95	29.95
DL-650M 1.5kw dummy load ....Δmwfv	74.95	59.95

VECTRONICS - continued	Reg	Sale
DL-2500 2.5kw dummy load ....Δmwfv	199.95	129.95
PM-30HF 300/3kw HF wattmeter	99.95	79.95
PM-30UV 30/300w VHF/UHF wattmeter	99.95	79.95
VIBROPLEX (VIB)		
090 Original Gold Bug	$299.95	289.95
100 Original Presentation Super deluxe bug	259.95	249.95
105 Original Deluxe Bug	174.95	
110 Original Standard Bug	139.95	
113 VibroKeyer Gold Paddle	279.95	269.95
115 VibroKeyer Deluxe Paddle	169.95	
120 VibroKeyer Standard Paddle	129.95	
123 Iambic Gold Paddle	279.95	269.95
125 Iambic Presentation Paddle	249.95	239.95
130 Iambic Deluxe Paddle	169.95	
135 Iambic Standard Paddle	129.95	
140 EK-1 Iambic keyer w/paddle	144.95	
145 Brass Racer Iambic paddle	89.95	
150 Square Brass Racer Iambic paddle	129.95	
155 Standard straight key ....m	139.95	
160 Deluxe straight key ....m	174.95	
W2AU (Unadilla) (W2A)		
W2AU 1:1 160-10m balun, lightning arrestor	$ 24.00	
W2AU Beam Balun, 1:1	24.00	
W2AU 4:1 160-10m balun, lightning arrestor	24.00	
W2DU-HF 1:1 1.8-30 MHz choke balun	26.00	
W2DU Beam Balun 40-10m 1:1 choke balun	26.00	
W2DU-VHF 1:1 30-250 MHz choke balun	26.00	
HA AN-sulator center insulator	9.00	
HE END-sulator end insulators ....pair	4.95	
KW-80CW Reyco 80m CW ant traps ....pair	48.00	
KW-80F Reyco 75m phone ant traps ....pair	48.00	
KW-40 Reyco 40m antenna traps ....pair	42.00	
KW-30 Reyco 30m antenna traps ....pair	42.00	
KW-20 Reyco 20m antenna traps ....pair	41.00	
KW-17 Reyco 17m antenna traps ....pair	41.00	
KW-15 Reyco 15m antenna traps ....pair	41.00	
KW-12 Reyco 12m antenna traps ....pair	41.00	
KW-10 Reyco 10m antenna traps ....pair	41.00	
W2AU/W2VS 5-band ant kit (use tuner)	85.00	
W5YI (W5Y)		
GWAM Gordon West Advanced study manual	$ 11.95	
GWAW Gordon West Adv written theory tapes	19.95	
GWE6 Gordon West 6 ea 10-28 wpm code tapes	29.95	
GWEM Gordon West Extra study manual	11.95	
GWET Gordon West Extra code tapes	9.95	
GWEW Gordon West Extra written theory tapes	19.95	
GWG6 Gordon West 6 ea 5-16 wpm code tapes	29.95	
GWGM Gordon West General study manual	9.95	
GWGT Gordon West General code tapes	9.95	
GWGW Gordon West General theory tapes	9.95	
GWHC Gordon West Ham Class instructor video Δwf	19.95	14.95
GWN6 Gordon West 6 ea 0-7 wpm code tapes	29.95	
GWNC Gordon West No-Code Tech manual	9.95	
GWNT Gordon West Novice Code Teacher	9.95	
GWNW Gordon West Novice theory tapes	9.95	
GWTW Gordon West Tech theory tapes	9.95	

W5YI - continued	Reg	Sale
HOS Ham operator software package	39.95	
NCS No-code ham radio software package	29.95	
NCVS Ham No-Code video licensing seminar	21.95	
WABER AC OUTLET STRIPS (WAB)		
3SP 3 outlet/breaker/switch/light ....Δm	$ 16.60	4.95
4S 4 outlet/breaker/switch ....Δm	16.60	4.95
5 5 outlet w/breaker ....Δm	16.60	4.95
7S 7 outlet/breaker/switch ....Δm	19.95	6.95
WAHL (WAH)		
7740 Quick charge cordless soldering iron kit	$ 39.95	34.95
7980 Butane soldering iron and torch	29.95	
7985 Butane iron/torch kit package w/case	54.95	49.95
WALNUT CREEK (WAL)		
Antennas Antennas CD-ROM	$ 39.95	29.95
CICA 650 MB current Windows share Δmwcv	29.95	19.95
Garbo 250 MB DOS + 150 MB Mac ..... Dmwv	29.95	19.95
Giga Games 3,000 DOS/Windows games Δmwcv	39.95	19.95
Ham QRZ US & Canada calls plus programs	29.95	
Hobbes 1,000's of OS/2 applications ..Δmwc	29.95	19.95
Simtel 650 MB current DOS programs .Δmwc	29.95	19.95
WELLER (WEL)		
7200PK 75w soldering gun kit	$ 25.46	
EC-1002-1 40w temp controlled solder stn	225.81	199.95
WP-25 25w professional soldering iron	30.06	
W-60P 60w temp controlled soldering iron	57.45	
WTCPT 60w temp controlled soldering stn	128.73	109.95
WSTA3 Pyropen portable LP soldering iron	98.06	89.95
WST2 Pyropen Jr. portable butane iron	78.74	69.95
YAESU (YAE)		
FT-1000MP/DC 9-band Xcvr/EDSP/tuner	3399.00	2799.95
MD-100A8X mic FREE w/FT-1000MP/DC! Limited Time!		
FT-1000MP 9-band Xcvr/EDSP/tuner/ps	3699.00	2999.95
MD-100A8X mic FREE w/FT-1000MP! Limited Time!		
DVS-2 Digital voice recording module	238.00	219.95
FH-1 Remote control keypad	88.00	
MD-100A8X Desk mic w/tone control	138.00	129.95
MH-31B8 Extra hand microphone	39.00	
SP-8 External speaker w/filters	173.00	159.95
LL-7 Phone patch unit for SP-8	153.00	139.95
TCXO-4 TCXO unit	99.00	
TCXO-6 Deluxe TCXO unit, 0.5 ppm	190.00	174.95
YF-110CN 250 Hz 3rd IF main Rcvr CW filt	157.00	144.95
YF-110SN 2 KHz 3rd IF main Rcvr SSB filt	157.00	144.95
YF-114CN 250 Hz 2nd IF main Rcvr CW filt	157.00	144.95
YF-114SN 2 KHz 2nd IF main Rcvr SSB filt	157.00	144.95
YF-115C 500 Hz CW Collins mech filter	173.00	159.95
YH-77ST Open-air type stereo headphones	51.00	
FT-1000 Xcvr w/ps/tuner/keyer/mic/XF-AB	4399.00	3499.95
$200 coupon - FT-1000 thru 1/15/97		
BPF-1 Dual bandpass filter; crossband rcv	196.00	179.95
TCXO-1 Temp compensated xtal osc Δmwfv	190.00	159.95
XF-C 2.4KHz SSB xtal filt (455KHz) Δmwfcv	157.00	129.95
XF-D 2 KHz SSB xtal filter (455 KHz)	157.00	144.95
YF-110C/XF-E 500 Hz CW xtal filter (455 KHz)	157.00	144.95
FT-1000D Dlx Xcvr w/BPF/TCXO/XF-ABCDE	5459.00	4399.95
$200 coupon - FT-1000D thru 1/15/97		

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	Reg	Sale
DVS-2 Digital voice recording module	238.00	219.95
FIF-232C Interface for RS-232	95.00	
MD-100A8X Desk mic w/tone control	138.00	129.95
Cable needed for FT-1000D contact service for info		
SP-5 External spkr w/audio filter	157.00	144.95
LL-5 Phone patch unit for SP-5	143.00	129.95
XF-455MC 600Hz CW filter (455KHz); subrcvr	157.00	144.95
YF-110CN/XF-F 250 Hz CW xtal filter (455 KHz)	157.00	144.95
YH-77ST Open-air type stereo headphones	51.00	
FT-990DC Xcvr w/tuner & mic	2319.00	1869.95
$150 coupon - FT-990DC thru 1/15/97		
MD-100A8X mic FREE with FT-990DC! Limited Time!		
FP-25 Internal power supply for FT-990DC	287.00	259.95
FP-800 20A heavy duty ps for FT-990DC	349.00	299.95
XF-109C 500 Hz CW filter for FT-990DC	127.00	119.95
FT-990 Xcvr w/ps/tuner/mic/CW filter	2759.00	2199.95
$150 coupon - FT-990 thru 1/15/97		
MD-100A8X mic FREE with FT-990! Limited Time!		
DVS-2 Digital voice recording module	238.00	219.95
FIF-232C Interface for RS-232	95.00	
MD-100A8X Desk mic w/tone control	138.00	129.95
Cable needed for FT-990 contact service for info		
SP-6 External speaker w/filter	157.00	144.95
LL-5 Phone patch unit for SP-6	143.00	129.95
TCXO-2 Temp compensated xtal oscillator	157.00	144.95
XF-10.9M-202-01 2nd IF 2 KHz SSB filter	127.00	119.95
XF-110CN 455 KHz 250 Hz CW filter	157.00	144.95
YH-77ST Open-air type stereo headphones	51.00	
SP-767P Speaker/patch for FT-767GX ....Δmf	143.00	129.95
FT-900 Xcvr/remote front panel/mic .....Dmv	1519.00	1199.95
$100 coupon - FT-900 until gone!		
YSK-900 remote kit FREE with FT-900! until gone!		
FT-900/AT Xcvr/rem front/mic/tuner .Dmwfcv	1719.00	1369.95
$100 coupon - FT-900/AT until gone!		
YSK-900 remote kit FREE with FT-900/AT! until gone!		
XF-115S-01/YF115S01 2.75 Collins Dmwfcv	189.00	149.95
FT-900/C Xcvr/rem fnt/mic/2.75 Collins †Δm	1619.00	1199.95
YSK-900 remote kit FREE with FT-900/C! Limited Time!		
ATU-2 Internal antenna tuner .....Δmwfcv	301.00	239.95
FT-900/CAT Xcv/rem/mic/tune/Collins SSB filt †	1819.00	1369.95
YSK-900 remote kit FREE with FT-900/CAT! Limited Time!		
FP-800 20A heavy duty power supply	349.00	299.95
CT-26 Mic adapter cable; modular to 8-pin	22.00	
DVS-2 Digital voice recording module	238.00	219.95
FC-800 External long wire auto tuner	525.00	449.95
FIF-232C Interface for RS-232	95.00	
MD-100A8X Desk mic w/tone control	138.00	129.95
CT-20 Mic cable for use with MD-1C8	22.00	
MH-31A8J Extra hand microphone	39.00	
MMB-20 Mobile mount	34.00	
SP-6 External speaker w/filter	157.00	144.95
LL-5 Phone patch unit for SP-6	143.00	129.95
SP-7 Mobile speaker	40.00	
TCXO-3 TCXO unit	79.00	
XF-110C 455 KHz 500 Hz CW filter	157.00	144.95
XF-110CN 455 KHz 250 Hz CW filter	157.00	144.95
XF-110S 455 KHz 2.6 KHz SSB filter	157.00	144.95
YF-101 2nd IF 2.6 KHz SSB filter ....Dmwfcv	179.00	149.95
YA-007FG Mobile fg 3-30 MHz whip ant	157.00	144.95
YH-77ST Open-air type stereo headphones	51.00	
YSK-900 20' remote mtg kit w/tnk mtg bkt	68.00	
MMB-62 Remote control panel bracket	39.00	
FRB-757 External relay box for FT-890	31.00	
XF-455K-251-01 250Hz CW filt; FT-890 ..Dmf	189.00	149.95
FT-600 Commercial grade HF Xcvr .....†	1249.00	899.95
FC-800 External long wire auto tuner	525.00	449.95
MMB-20 Mobile mount	34.00	
FT-840 Xcvr/SW Rcvr	1099.00	899.95
$100 coupon - FT-840 thru 1/15/97		

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YAESU - continued

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FP-800 20A heavy duty power supply	349.00	299.95
FC-10 External coax fed auto tuner	429.00	379.95
FC-800 External long wire auto tuner	525.00	449.95
FIF-232C Interface for RS-232	95.00	
FM-747 FM unit	62.00	
MD-100A8X Desk mic w/tone control	138.00	129.95
Cable needed for FT-840 contact service for info		
MMB-20 Mobile mount	34.00	
SP-6 External speaker w/filter	157.00	144.95
SP-7 Mobile speaker	40.00	
TCXO-4 TCXO unit	99.00	
YA-007FG Mobile fiberglass HF whip ant	157.00	144.95
YF-112A 6 KHz AM filter	127.00	119.95
YF-112C 500 Hz CW filter	127.00	119.95
YH-77ST Open-air type stereo headphones	51.00	
FP-700 Power supply	286.00	249.95
FL-7000 Solid state amp w/auto ant tuner	2617.00	2199.95
CT-11 Cable - FL-7000 to FT-890/900	19.00	
E-767 Cable - FL-7000/FT-767/990/1000/MP	16.00	
FAS-1-4R Remote antenna selector	143.00	129.95
FRG-100B .1-30 MHz shortwave receiver	739.00	619.95
FM Unit-100 FM unit	47.00	
TCXO-4 TCXO unit	99.00	
YF-110C/XF-E 500 Hz CW xtal filter	157.00	144.95
YF-110CN/XF-F 250 Hz CW xtal filter	157.00	144.95
XF-455M6 600 Hz CW filter; FT-650 .....Dmv	169.00	129.95
YA-30 1.8-30 MHz broadband dipole ant	269.00	239.95
YH-77 Lightweight headphones .....Dmwfc	30.00	
YH-77ST Open-air type stereo headphones	51.00	
YS-60 1.8-60 MHz 2kw PEP wattmeter	139.00	129.95
YS-500 140-520 MHz 200w PEP wattmeter	114.00	109.95
FT-736R 25w 2m/430 full dplx Xcvr/ps/mic	2449.00	1969.95
AD-3 100w 2m/440 duplexer	52.00	
E-736 DC cable	16.00	
FEX-736-50 6m module	317.00	279.95
FEX-736-220 220 MHz module	349.00	309.95
FEX-736-1.2 1.2 GHz module	619.00	539.95
FIF-232C Interface for RS-232	95.00	
FTS-8 Encoder/decoder	62.00	
FVS-1A Voice synthesizer	43.00	
Keyer-B Electronic keyer unit	26.00	
MD-100A8X Desk mic w/tone control	138.00	129.95
Modification needed contact service for information		
MH-1B8 Extra hand microphone	30.00	
SP-767 Speaker w/audio filters	110.00	99.95
TV-736 1.2 GHz ATV converter	205.00	189.95
FT-690R Mk II 10w 6m FM/SSB Xcvr/TTP	889.00	739.95
FT-290R Mk II 25w 2m FM/SSB Xcvr/TTP	749.00	629.95
FT-790R Mk II 25w 430-450 FM/SSB/TTP	869.00	719.95
CSC-19 Soft case	16.00	
FBA-8 Holder for 9 C-cell nicads	39.00	
NC-26B Wall charger for FBA-8	9.00	
FTS-7A Encoder/decoder; current units	44.00	
FT-5100 50/35w 2m/440 FM Xcvr/TTP mic ..†	799.00	539.95
$60 coupon - FT-5100 thru 1/15/97		
FT-5200 50/35w 2m/440 FM/TTP mic Dmwfcv	839.00	599.95
$50 coupon - FT-5200 until gone!		
FT-6200 35/10w 440/1.2GHz FM Xcvr/TTP	899.00	749.95
DVS-3 Digital voice memory unit	157.00	139.95
FRC-4 DTMF pager unit .....Δmwfcv	47.00	39.95
FTS-22 CTCSS decode unit	68.00	
MH-27B8 Extra TTP mic w/8-pin plug	65.00	
MW-2* Wireless rem control mic ...Dmwfcv	162.00	129.95
* Requires jumper modification		
MMB-53 Mobile mtg bkt for MW-2 Δmwfv	8.00	
SP-7 External speaker	40.00	
YSK-1L Sep kit w/18' cable; FT-5200/6200	58.00	
FT-8000R 50/35w 2m/440 FM Xcvr/TTP mic	699.00	549.95
ADMS-2C Windows prog software; 8000R	39.00	
FT-8500 50/35w 2m/440 FM/FS-10 dlx TT mic †	859.00	639.95
FT-8500/MH-39 50/35w 2m/440 FM/std TTP †	809.00	599.95
ADMS-2C Windows prog software; 8500	39.00	
CT-39 Packet cable	9.00	
FTS-22 CTCSS decode unit	68.00	
MH-27B8 TTP mic w/8-pin plug	65.00	
MEK-2 Mic adapter kit for MH-27B8	42.00	
MH-39A6J Extra regular mic for FT-8500	104.00	

YAESU - continued

	Reg	Sale
MMB-60 Quick release mobile bracket	31.00	
SP-7 External speaker	40.00	
YSK-8500 Remote separation kit	69.00	
MMB-62 bracket FREE w/YSK-8500 Limited Time!		
MMB-62 Remote control panel bracket	39.00	
MH-15D8 Autodial TTP microphone	75.00	
FT-7400H 35w 440 FM Xcvr w/TTP mic .....†	629.00	469.95
$30 coupon - FT-7400H thru 1/15/97		
2400 Mic Cable 2' packet cable	9.00	
FRC-6 DTMF pager unit	47.00	
FTS-17A CTCSS decode unit	47.00	
MH-27A8J Extra TTP mic w/modular plug	60.00	
SP-7 External speaker	40.00	
FT-3000M 70w 2m FM Xcvr/TTP/extended rcv	599.00	489.95
ADMS-2C Windows prog software; 3000M	39.00	
CT-39 Packet cable	9.00	
DVS-4 Digital voice recording module	47.00	
FTS-27 CTCSS decode unit	47.00	
FT-2500M 50w 2m FM Xcvr w/TTP mic	459.00	369.95
$30 coupon - FT-2500M thru 1/15/97		
2400 Mic Cable 2' packet cable	9.00	
FTS-17A CTCSS decode unit	47.00	
FT-7200 35w 440 FM Xcvr/TTP mic ..†Δmwfv	639.00	449.95
DVS-3 Digital voice memory unit	157.00	139.95
FTS-27 CTCSS decode unit	47.00	
MW-2 Wireless remote control mic Dmwfcv	162.00	129.95
MMB-53 Mobile mtg bkt for MW-2 Δmwfv	8.00	
SP-7 External speaker	40.00	
LF-1 Mobile 13A DC noise filter	26.00	
SP-3 Small mobile speaker	23.00	
SP-4 Mobile speaker	31.00	
VXR-5000VADC 25w 2m FM repeater	1635.00	1199.95
VXR-5000UCDC 25w 440 FM repeater	1635.00	1199.95
Repeaters require service dept. set-up; $68 minimum		
COM ID-8 Auto morse code ID'er	69.95	
MR-KIT1 19" rack mtg kit; VXR repeater	218.00	199.95
VX VPL-1 PC programming cable	55.00	

Accessories for FT-208R/708R

FNB-2A Nicad battery pack	$ 45.00	
YM-24A Speaker/microphone .....Dm	39.95	

Accessories for 09-series/03-series

FNB-4A 500ma 12v battery	$ 62.00	
FTS-6 Encoder/decoder; 09-series .....Dmf	35.00	
MMB-21 Mobile bracket; also for 727R ....Dm	16.00	6.95

Accessories for FT-26/415/416/530

CA-8 2 charging sleeves; NC-50/416/530	$ 27.00	
CLIP-3 Belt clip	7.00	
CSC-50 Vinyl case; 415/416/FNB25 .....Dmw	16.00	2.95
CSC-52 Case; 415/416/FNB26/27 .....Δmwf	19.00	9.95
CSC-53 Vinyl case; 26/76/FNB-25 .....Δmwv	19.00	6.95
CSC-55 Case: 26/76 w/FNB-26/27 .....Δmwf	19.00	6.95
CSC-56 Vinyl case; 530 w/FNB-25	19.00	
CSC-58 Vinyl case; 530 w/FNB-26/27	19.00	
FBA-12 AA cell holder	19.00	
FNB-25 600ma 7.2v nicad battery	39.00	
FNB-25G 600ma 7.2v nicad battery .....Dm	39.00	
FNB-26 1000ma 7.2v nicad battery	55.00	
FNB-27 600ma 12v nicad battery (5w)	62.00	
FNB-27G 600ma 12v nicad battery (5w)...Dm	62.00	59.95
FTS-17A CTCSS encode/decode unit	47.00	
MMB-54 Mobile mtg bkt; FT-26/530 ...Dmwfv	23.00	
NC-18B Wall charger for FNB-27	14.00	
NC-28B Wall charger for FNB-25/26	14.00	
YH-2 Lightweight VOX headset w/mic	30.00	
FT-23R-17 2.5w 2m FM HT/FNB-17/cgr	277.00	219.95
FT-23R-12 5w 2m FM HT/FNB-12S/cgr	295.00	234.95
FT-33R 5w 220 FM HT/batt/cgr	369.00	299.95
FT-411E 2.5w 2m FM HT/FNB-17/cgr/TTP	368.00	289.95
FT-911 1w 1.2 GHz FM HT/batt/cgr/TTP	569.00	469.95

Accs for FT-23R/33R/73R/411E/811/470/911

CA-7 2 charging sleeves; NC-50/411E/470	$ 27.00	
CLIP-1 Belt clip	7.00	
CSC-28 Soft case; 23R/33R/73R w/FNB-12S	16.00	
CSC-35 Soft case; FT-411E w/FNB-17	16.00	
CSC-37 Soft case; FT-411E w/FNB-12S/14	16.00	
CSC-43 Soft case; FT-470/FNB-9/17 .Δmwcv	16.00	14.95

YAESU - continued

	Reg	Sale
CSC-48 Soft case; 23R/33R/73R w/FNB-17 ...	16.00	
FBA-17 AA battery holder	19.00	
FNB-12S 600ma 12v (5w) battery	55.00	
FNB-14 1000ma 7.2v battery	55.00	
FNB-17 600ma 7.2v battery	34.00	
FTS-12 Encoder/decoder for FT-23R/33R/73R	60.00	
FTS-17A Tone squelch/pager; FT-411E	47.00	
FTT-4 DTMF (TTP) unit for FT-23/33R	48.00	
MH-12A2B Speaker/microphone .....Dmwfc	50.00	
MH-19A2B Earpiece/microphone	30.00	
MH-30C2B Speaker/microphone	45.00	
MH-32A2B Compact lapel speaker/mic	30.00	
MH-35A2B Spkr mic/clip/earphone jack	39.00	
MMB-46 Mobile hanger for FT-470	25.00	
NC-18B Wall charger for FNB-12S	14.00	
NC-28B Extra wall charger for FNB-9/10/17 ..	14.00	
NC-29 Desk quick cgr; FNB12S/14/17 Dmwfv	77.00	
NC-34B Wall charger for FNB-14	14.00	
NC-37 1-hr desk cgr; FNB-12S/14/17 .....Dmf	125.00	**119.95**
PA-6 Mobile DC adapter/cgr; FNB-9/10/14/17 .	31.00	
YH-2 Lightweight VOX headset w/mic	30.00	
FT-10/40B-A06 2.5w 2m HT/6 keypad/30 ch .	309.00	**249.95**
FT-10/41B-A06 5w 2m HT/6 keypad/30 ch ...f	319.00	**259.95**
FT-10/40B-A16 2.5w 2m HT/16 key/30 ch	339.00	**269.95**
FT-10/41B-A16 5w 2m HT/16 keypad/30 ch ..	349.00	**279.95**
FT-10/40B-A16D 2.5w 2m HT/16 key/99 ch ...	369.00	**299.95**
FT-10/41B-A16D 5w 2m HT/16 keypad/99 ch	379.00	**309.95**
FT-10/40B-A16S 2.5w 2m/16key/99ch/DVRS	389.00	**309.95**
FT-10/41B-A16S 5w 2m/16 key/99 ch/DVRS .	399.00	**319.95**
RH-1 case protector FREE with FT-10! Limited Time!		
FT-40/40B-A06 2w 440 HT/6 keypad/30 ch ...	339.00	**274.95**
FT-40/41B-A06 5w 440 HT/6 keypad/30 ch ...	349.00	**284.95**
FT-40/40B-A16 2w 440 HT/16 key/30 ch .S.O.	369.00	**299.95**
FT-40/41B-A16 5w 440 HT/16 key/30 ch .S.O.	379.00	**304.95**
FT-40/40B-A16D 2w 440 HT/16 key/99 ch	399.00	**324.95**
FT-40/41B-A16D 5w 440 HT/16 keypad/99 ch	409.00	**329.95**
FT-40/40B-A16S 2w 440/16key/99ch/DVRS ...	419.00	**339.95**
FT-40/41B-A16S 5w 440/16 key/99 ch/DVRS	429.00	**344.95**
RH-1 case protector FREE with FT-40! Limited Time!		
FT-50R/40B 2w 2m/440 HT/FNB-40/ext rcv/TTP	409.00	**329.95**
FT-50R/41B 5w 2m/440 HT/FNB-41/ext rcv/TTP	419.00	**339.95**
ADMS-1C Windows prog soft; FT-10/40/50 ..	38.00	
CA-15 Charging stand; FT-10/40/50	27.00	
NC-60B Wall charger; FNB-40/41/CA-15 .	14.00	
CN-2 BNC to SMA adapter: FT-10/40	8.00	
CN-3 BNC to SMA adapter: FT-50R	8.00	
CSC-68 Soft case; FNB-41/FBA-15	16.00	
CSC-69 Soft case; FNB-40	16.00	
CSC-V10 Cordura soft case; FT-10/40/50 ...	27.00	
CT-27 Cloning cable	10.00	
CT-30 Microphone Y adapter	10.00	
EDC-5B DC adapter w/noise filter	26.00	
EDC-6 DC adapter; plug & wire only	7.00	
FBA-15 AA battery holder	19.00	
FNB-40 650ma 6v battery	48.00	
FNB-41 600ma 9.6v (5w) battery	58.00	
FNB-42 1100ma 9.6v (5w) battery	62.00	
FNB-V47 1100ma 7.2v battery w/belt clip ..	55.00	
PA-17 Battery cable extender	57.00	
FNB-49 600ma 6v battery	38.00	
FTT-10/A06 6-key keypad/encoder/30 ch	25.00	
FTT-10/A16 16-key keypad/encoder/30 ch ..	34.00	
FTT-10/A16D 16-key keypad/enc/dec/99 ch	62.00	
FTT-10/A16S 16-key pad/enc/dec/99ch/DVRS	81.00	
FTT-12 16-key keypad/dec/DVRS; FT-50R ...	62.00	
MH-30C2B Speaker/mic; use CT-30 also	45.00	
MH-34A2B/MH-34B4B Speaker/mic	30.00	
MH-37A4B Ear-piece microphone	30.00	
NC-50 1-hour dual slot charger	109.00	
CA-14 2 charging sleeves; NC-50	26.00	
RH-1 Rubber case protector	7.00	
VC-23 VOX headset	62.00	
YHA-54 Repleacment 2m/440 BNC duck	16.39	
FT-11R 1.5w 2m FM HT/FNB-31/cgr/TTP .....†	389.00	**279.95**
FT-11R/HP 5w 2m FM HT/FNB-38/cgr/TTP ....†	399.00	**299.95**
FT-41R 1.5w 440 FM HT/batt/cgr/TTP .....†	479.00	**339.95**
FT-51R 2w 2m/440 FM HT/FNB-31/cgr/TTP .†	619.00	**459.95**
FT-51R/HP 5w 2m/440 HT/FNB-38/cgr/TTP ...†	639.00	**479.95**

YAESU - continued

	Reg	Sale
51R Clone/CT-35 Clone cable; FT-11/41/51R	9.00	
ADMS-1C Windows programming software .	38.00	
CD-2 Mobile rapid charger; FT-11/41/51R ..	103.00	
CSC-61 Case; 11R/41R/FNB-33/38/FBA-14	16.00	
CSC-62 Soft case for FT-11R/41R/FNB-31 ..	16.00	
CSC-66 Soft case; FT-51R/FNB-33/38/FBA-14	19.00	
CSC-67 Soft case for FT-51R/FNB-31	19.00	
EDC-12 DC adapter; FT-11R/41R/51R	38.00	
FBA-14 AA battery holder	19.00	
FNB-31 600ma 4.8v battery .....†	47.00	
NC-55B charger FREE w/FNB-31 Limited Time!		
FNB-33 1200ma 4.8v battery .....†	62.00	
FNB-38 600ma 9.6v (5w) battery	75.00	
FTS-26 CTCSS decoder	47.00	
MH-19A2B Earpiece/microphone	30.00	
MH-29A2B LCD display spkr/mic; 51R	106.00	
MH-30C2B Speaker/microphone	45.00	
MH-32A2B Compact lapel speaker/mic	30.00	
MH-35A2B Spkr mic/clip/earphone jack	39.00	
NC-34B Wall charger for FNB-33	14.00	
NC-38B Wall charger for FNB-38	14.00	
NC-55B Wall charger for FNB-31	14.00	
NC-50 1-hour dual slot charger	109.00	
CA-10 2 charging sleeves; NC-50/11/41/51	14.00	
PA-10A Mobile drop-in adapter/cgr	82.00	
VC-22 Headset w/VOX	62.00	
YHA-54 Repleacment 2m/440 BNC duck	16.39	

ANTENNA ROTORS

	Reg	Sale
G-450XL 10 sq ft antenna rotor	$269.00	**239.95**
G-500A 12 sq ft elevation rotor/8-wire	319.00	**279.95**
G-800S Med/hvy duty 450 degree 17sq ft/5-wire	399.00	**339.95**
G-800SDX Med/hvy duty 17sq ft/presets/5-wire	499.00	**429.95**
G-1000SDX HD 450 degree 23sq ft/presets/5-wire	599.00	**519.95**
G-2800SDX HD 450 degree 34sq ft/presets/8-wire	1329.00	**1139.95**
G-5400B Light/med 11sq ft az/el//2x8-wire ..	619.00	**539.95**
Sep Kit Separation kit for G-5400B	23.00	
GC-038 Mast clamp; 400/800/1000/5400B ...	31.00	
GC-048 Mast clamp; G-2700/2800SDX	47.00	
GS-050 50mm thrust bearing; mast 1¼-2" ...	31.00	
GS-065 65mm thrust bearing; mast 1½-2½" .	47.00	
GS-23 Interface; G-800/1000/2700/2800SDX	356.00	**299.95**
GS-232 Interface for G-5400B	562.00	**469.95**

See BELDEN for rotor cable

	Reg	Sale

ZENITH (ZEN)

A-8477 75 ohm high-pass filter .....Dmwfcv **9.95**

zm Xpressions (ZMX)

What is your **TNC doing?** Book ..... $ 15.00

SAVE on these CLOSE-OUTS!

AEA PCB-88 IBM plug-in packet adapt mwfcv	**99.95**
ALI DJ-F1T 2w 2m FM HT/batt/cgr/TTP ..mwfv	**188.95**
ALI DJ-F1T/HP 5w 2m FM HT/TTP .....mwfcv	**208.95**
ALI DJ-180T 2w 2m HT/batt/cgr/TTP ...mwfcv	**169.95**
ALI DJ-180TH 5w 2m HT/batt/cgr/TTP .mwfcv	**189.95**
ICO AH-2A Antenna tuning system .....mwcv	**489.95**
ICO AT-160 Automatic antenna tuner .....mwf	**249.95**
ICO IC-T22A/HP 5w 2m HT/batt/cgr/TTP mwfv	**259.95**
ICO IC-T41A 440 FM HT/batt/cgr/TTP ...mwfv	**249.95**
ICO IC-W31A 2m/440 HT .....mwf	**349.95**
ICO IC-W31A/HP 5w 2m/440 HT ..... mwfv	**369.95**
ICO IC-275H 100w 2m FM/SSB/CW Xcv .....m	**1699.95**
ICO IC-281H 50w 2m FM/9600 baud ....mwfv	**379.95**
ICO IC-475H 75w 430-450 FM/SSB/CW mwfv	**1699.95**
ICO IC-728 Xcvr/SW Rcvr w/mic .....mwfv	**1199.95**
ICO IC-738 Xcvr/Rcvr/tuner/kyr/mic ...mwfcv	**1369.95**
ICO R-71A Shortwave receiver .....mf	**1199.95**
ICO UX-S92A 2m SSB module; IC-901.....m	**179.95**
KAN KPC-9612/128K 9600/128K .....mwfcv	**239.95**
KEN AT-300 External auto ant tuner .....mwfv	**549.95**
KEN TM-241A 50w 2m FM/TTP mic .....mwfcv	**259.95**
KEN TM-241AHK2L 50w 2m FM/backlit mwfcv	**269.95**
KEN TM-441A 35w 440 FM Xcvr/TTP ....mwfcv	**349.95**
KEN TM-942A 2m/440/1.2 FM/TTP mic ..mwfv	**1049.95**
KEN TS-850S 9-band Xcvr/Rcvr/mic ....mwfcv	**1349.95**
KEN TS-850S/AT 9-band Xcvr/Rcvr/tuner mwfcv	**1499.95**
KEN UT-28S 50w 10m unit;741/742/etc mwfcv	**169.95**
UNI HR-2510 25w 10m FM/SSB Xcvr ..mwfcv	**229.95**
VEC HF-600QSK 1kw HF amplifier w/QSK ...m	**1449.95**
YAE FT-900 Xcvr/remote front panel/mic ..mv	**1199.95**
YAE FT-900/AT Xcvr/rem/tuner w/couponmwfcv	**1269.95**
YAE FT-5200 50/35w 2m/440 w/coupon mwfcv	**549.95**

AES® On-Line...

The AES® BBS: On-line since October 1993. At this time, we have over 1500 users in all 50 states & over 50 foreign countries.

You can find New & Used Equipment Price Lists; New Product Information; Open House & Special Activity Dates/Times; Technical Help; Freeware & Shareware Computer Programs. You can leave messages for our staff, to our BBS users and even post your equipment for sale, on-line.

The system is running OS/2 Warp, using the Gilmore Systems Magnum 9.0 software. We have two phone lines and using U.S. Robotics Courier V.Everything – 28.8 modems. The computer is an ASC 486-DX66.

WORLD WIDE WEB: http://www.aesham.com Take a look at AES® on the World Wide Web. We have: Information on each of our Branch Stores; Open House & Special Event Dates/Times; Price Lists; Links to other Ham Radio related web sites and a place to request the AES® Catalog and periodic update flyers. Stop by regularly, there are always changes being made.

e-mail: help@aesham.com Messages and requests for pricing can also be sent via our e-mail address to our staff and we will reply to them as soon as possible.

HELP: If you have any questions about AES® ON-LINE, please contact our Sysop, **Richard Engel, KE9QU** at the Milwaukee store. Richard was licensed in 1969, and has been with us for over 12 years. He is very knowledgeable in all phases of amateur radio, especially Digital Communications.

AMATEUR ELECTRONIC SUPPLY®

Used Amateur Radio Equipment List

★ Fully Service Tested ★ 10 Day Trial ★ 30 Day Guarantee ★ Full Credit within 90 Days on Higher Priced New Equipment ★ Only Clean Gear Accepted in Trade ★ The Finest Available ... Anywhere!

Note: This Used Equipment List reflects what was in our inventory when this catalog was printed. We trade, buy and sell a tremendous amount of used equipment, so this is only a representation of what may be available at any given time. Each store has immediate on-line computer access of the entire AES used gear inventory by location–one phone call is all that is needed to see if an item is in stock. The letters after the price indicate which location had the particular item at the time of inventory: **m** = Milwaukee; **w** = Wickliffe; **f** = Orlando; **c** = Clearwater; **v** = Las Vegas. + after item denotes too many accessories to list.

ALINCO
DJ-G5T 2.5W 2M HT...$329 w
DJ-580T 2M/440 HT.....259 m
DR-M06T 6M 10W .....249 mv
DR-110T 45W 2M .....199 cf
DR-112T 45W 2M .....199 m
DR-1200T 2M pkt xcvr.169 f
DR-1200TH2 2M pkt ".209 f
DR-570T 2M/70cm ....399 f
EMS-8Z spkr mic.....25 w
EDC-34 desk charger ....69 f

AMERITRON
ALS-600 700w hf amp..$879 v
AL-80A 1kw hf amp....749 c
AL-811 600w hf amp ..479 f
ATR-15 1.5K hf tuner...269 w

ASTATIC
TUG-9 amp desk stand $39 v
TUG-9 D104 desk mic....59 c

AZDEN
PCS-7800H 50W 10M$299 m
PCS-7000H 50W 2M....289 mw

B&W
FL10/1500 1K low pass$45 v

BENCHER
YA-1 1kw low pass filter.$49 w

BIRD
10A element for 43.....$39 m
5A element for 43.....39 mc
50H element for 43.....49 m
4240-179 PL-259 QC ..$19 m

CONNECT SYSTEMS
CS-900 simplex patch$288 v

DAIWA
CN-465M V/UHF meter $69 f
CN-520 hf wattmeter ....59 m
DP-810 digital watt mtr.169 m

DIAMOND
SX-100 1.6-60mhz mtr$79 f
SX-400 2m/440mhz " ...79 v
MX-72D 2M/440 dplxr ...39 mf
MX-72N 2M/440 dplxr ...39 f

DRAKE
MN-75 200w tuner ....$149 v
MS-7 speaker .....39 v
TR-7/NB/2 cw flts + ...549 v
PS-7 p/s w/fan .....159 v
R-8 swl receiver .....549 m

GENESYS
ET MARK II ear talk.....$59 v

GRUNDIG
SATELLIT 650 swl .....$679 m
SATELLIT 700 swl .....399 v
YACHT BOY 400 swl.....169 v
YACHT BOY 500 swl.....149 m

HEIL
BM-10 K5 fits Kenwood $49 m
HM-10 Dual fits Yaesu ..85 m

HY-GAIN
HDR-300 analog .....$749 v
2400-155 headset/mic ..59 f

ICOM
AH-3 auto ant tuner ..$299 w
AT-500 auto tuner.....$399 m
BC-35 desk charger .....49 w
BC-72 charger..... 79 mw
BC-80 charger.....79 v
HM-65 spkr/mic .....49 m
HM-8 mobile mic.....39 f
HM-9 spkr/mic .....29 m
IC-DELTA1A 2m/440/12..479 w
IC-Z1A 2m/440/dlx ht..279 w
IC-02AT 2m 2W ht.....199 w
IC-2AT 2m 1.5W ht.....159 m
IC-2KL 1KW hf ss amp1299 m
IC-2SAT 2m 1.5W ht.....239 w
IC-2400A dual band ...399 m
IC-2410A dual band....459 mf
IC-275A 2M FM/SSB....879 c
IC-27A 2M 25W .....169 m
IC-28A 2M 25W .....199 v
IC-281H 2M 50W .....299 mcv
IC-3200A 2M/440.....379 mv
IC-3230H 2M/440/ut66489 m
IC-725 HF xcvr .....639 mf
IC-726 HF/6M xcvr .....869 mw
IC-728 HF xcvr .....749 wv
IC-730 HF xcvr.....489 mv
IC-737 HF xcvr.....879 w
IC-740 HF xcvr w/PS....539 v
IC-745 HF xcvr.....589 w
IC-745 HF xcvr w/FM ...599 m
IC-751 HF xcvr .....799 c
IC-751 HF xcvr/PS-35 ...899 w
IC-761 HF/PS/Tuner.....1399 wfv
IC-765 HF/PS/Tuner.....1399 wfv
IC-781 Dlx hf xcvr.....3599 c
IC-901A 2m/440 xcvr...699 f
PS-15 power supply.....119 wv
PS-45 power supply.....89 m
PS-55 power supply.....159 w
R-1-15 .1-1.2ghz rcvr .329 m
R-100 .1-1.8ghz rcvr...499 m
R-71A w/pbt/FM/CK70 729 m
R-71A swl w/pbt.....699 c
R-71A w/pbt/EX310.....759 m
R-71A swl w/pbt.....699 c
SM-6 desk mic .....49 v
SM-8 desk mic .....115 w
SP-3 speaker.....49 v
SP-7 speaker.....49 m

JPS
NF-60 filter.....$99 fc
NIR-10 filter .....199 mcf

KENWOOD
AT-130 antenna tuner .$99 v
AT-300 auto tuner.....449 f
AT-50 auto tuner.....249 v
DRU-3 Digital rec unit...69 m
HMC-2 headset .....39 w
HS-5 headphones.....39 m
MB-13 quick rlse brkt....39 v
MB-430 bracket .....19 mf
MC-60A desk mic .....99 mw
MC-80 desk mic .....79 c
MC-85 desk mic .....99 m
MC-85 dlx desk mic.....$99 m
PC-1 phone patch .....69 c
PS-30 power supply.....119 mw
PS-430 power supply...149 mw
PS-50 power supply...$169 mv
R-2000 swl rcvr.....499 v
R-5000 swl reciever ....699 cf
R-5000 w/cw/VC-20....859 f
SMC-31 spkr/mic .....35 c
SMC-32 spkr/mic .....38 cw
SM-220 scope/BS-8 ....319 v
SP-940 accy speaker.....79 m
TH-27A 2m ht.....199 c
TH-28A 2m ht.....239 m
TH-79A 2m/440 ht +...319 wv
TH-79A(D)H 5W ht .....329 v
TL-922A 2k hf amp....1299 v
TM-201A 2M 25W.....179 m
TM-201B 2M 45W.....189 m
TM-211A 2M 45W.....189 w
TM-221A 2M 45W.....189 v
TM-251A 2M 50W+ .....259 v
TM-2550A 45W 2M.....289 m
TM-701A 2M/440.....409 w
TM-721A 2M/440/tu6..389 m
TM-731A 2M/440.....399 m
TM-742A 2M/440/6M ..779 v
TM-942A 2M/440/1.2g.....799 m
TR-2500 2M ht+ .....209 w
TR-751A 2m/fm/ssb +..499 f
TR-7850 40W 2M.....169 m
TR-7930 25W 2M.....169 mw
TS-130S hf 12v xcvr....479 v
TS-140S hf xcvr/cw .....739 v
TS-430S w/cn/sn/a/fm 669 m
TS-440S HF xcvr .....799 c
TS-440S HF xcvr/cn .....829 w
TS-440S/AT HF xcvr .....899 v
TS-440S/AT cw/s/vs1 1029 m
TS-440S/AT w/88S .....939 w
TS-440S/AT w/SN.....929 wv
TS-450S HF xcvr/C1.....939 f
TS-50S HF xcvr .....799 v
TS-60S 6M xcvr .....819 mv
TS-680S HF/6M xcvr....789 m
TS-690S/AT/C1/SN1 ..1399 m
TS-790A 2M/440 fm ssb 1399 m
TS-830S HF xcvr 2/cw..739 f
TS-850S hf xcvr.....1079 m
TS-850S w/2cw/sn ....1179 m
TS-850S w/sn1.....1119 m
TS-930S/AT HF .....899 v
TS-940S HF xcvr .....1229 f
TS-940S/AT HF xcvr ...1399 mcf
TS-940S/AT w/C/A .....1459 f
TS-940S/AT w/2C/A ...1569 w
TS-950SDX HF xcvr+ .3395 v
TW-4000A 2m/440 .....349 m
TW-4000A TU4C/VS1 ...409 mcv
TW-4000A TU4C .....369 mw
TW-4100A 2m/440 .....389 m
TW-4100A w/TU7.....409 c
TW-4100A w/TU7/vs2..449 m

MFJ
1040B preselector.....$69 v
1214PC interface .....109 f
1224 interface as is .....49 v
1229 interface.....59 m
1272BX tnc/sw PK232...29 m
206 ant current probe ...69 f
207 HF SWR analyzer.....59 f
208 2M SWR analyzer....59 f
260B 300W dummy load24 m
283 speaker mic.....19 w
306 swl converter .....59 m
407B keyer.....39 m
624D phone patch.....65 f
722 filter .....59 w
816 swr/power meter.....23 w
924 440 mhz tuner.....49 v
931 artificial ground .....49 wv
945C antenna tuner .....64 m
962C antenna tuner ....169 c
989C antenna tuner ....249 f

MIRAGE
B-1016G 160W 2m....$269 w

NEWTON TVRO
GBS2000 sat test set ..$99 w

NYE VIKING
404-002 code key osc .$19 m

OPTOELECTRONICS
SCOUT model 25.....$359 f

PANASONIC
RF-B45 swl portable..$119 mv

RANGER
RCI-2950 10m xcvr ...$209 all

SANGEAN
ATS-803A swl rcvr .....$119 w

SGC
SG-2000/powertalk .$1919 v

SONY
ICF-SW7600 swl rcvr...139 f
ICF-SW77 receiver.....359 m
ICF-2002 w/o man.....$139 wc
ICF-2010 swl receiver..289 m
PRO-80 swl rcvr.....299 m

STANDARD
C168A 2M mini HT.....$249 mw
C178A 2M HT.....319 w
C188A 2M thin HT.....199 m
C228A 2M/220 HT.....479 m
C5608DA 2m/440mobile569 w
C5718DA 2m/440 .....649 w
C628A 440/1.2g ht.....529 m
C628A w/CNB-151+.....579 w

STARTEK
15UHS freq counter.....$119 c

TRIMBLE
TRANSPAK gps unit+.$395 m

UNIDEN
BC-2500XLT scanner.$249 w
BC-590XLT scanner.....149 c
HR-2600 25W 10M.....159 v

VIBROPLEX
ORIGINAL STD BUG.....$69 w
ORIG PRESENTATION....179 w

YAESU
FL-7000 amp/tuner..$1679 f
FP-700 power supply.....179 v
FRA-7700 active rx ant..39 m
FRG-8800 swl rcvr.....529 mv
FRG-8800/FRV-8800 ...579 m
FRV-7700 vhf conv .....49 m
FR-101 hf rcvr.....185 f
FT-11R/HP 2m 5w ht ...239 w
FT-209R 2M ht +.....219 w
FT-212RH 45W 2M+.....259 w
FT-2400H 2M/50W.....259 mcf
FT-2500M 2M/50W .....269 mcf
FT-270RH 2M fm xcvr ..189 w
FT-2700RH 2M/440 .....399 m
FT-41R 2M UHF ht .....259 w
FT-411 2M 2W ht+ .....309 w
FT-415 2M 2W ht .....$219 w
FT-4700RH 2m/440+ ..449 v
FT-5100 dual band .....479 f
FT-5200 w/FTS-22/frc4 ...529 w
FT-5200 2m/440 mobile.....479 f
FT-690R Mk II 6M .....529 c
FT-690R Mk II 6M + ...569 m
FT-690R Mk II 6M /FTS7 ..549 w
FT-707 hf 12volt xcvr.....399 f
FT-726R V/U FM/SSB.....899 m
FT-747GX hf xcvr.....549 f
FT-757GX MkII hf xcvr..719 f
FT-770RH 25W 440 +..279 v
FT-790RMkII 25W uhf ..549 w
FT-840 HF xcvr.....719 cw
FT-8500/MH39 2m/440...529 m
FT-890/AT HF xcvr.....999 fv
FT-900/AT HF xcvr .....999 m
FT-901D HF xcvr .....499 f
FT-990 HF xcvr.....1599 fm
FT-990DC w/2khz .....1369 v
FV-700DM remote VFO...49 m
MD-1B8 desk mic.....89 m
MH-12A2B spkr/mic.....29 w
MH-19A2B spkr/mic.....24 w
MH-29A2B spkr/mic.....89 w
MH-32A2B spkr/mic.....24 w
MW-1 remote mic .....79 w
MW-2 remote mic .....99 f
NC-15 rapid charger .....79 w
NC-34B charger .....9 m
PA-10A mobile adapter .49 w
RMK-747 remote kit .....99 m
SP-101PB spkr/patch ...49 c
SP-102 speaker.....49 m
SP-102P spkr/patch .....69 f
YH-55 headphones .....19 m
YO-901 scope.....299 w
YSK-900 remote kit .....39 m

This Used Equipment list & the Demo Equipment list on the next page were prepared from an actual inventory taken on 10/21/96. Availability & Prices are subject to change without notice.

■ **TRADE-INS** We will take your clean late model SSB or FM gear in trade towards New Equipment shown in this catalog, or we will buy it outright for Cash – write or call for a quote. In order to receive the full value as quoted, your equipment must arrive at our location in good electrical and physical condition, free from abnormal wear, defects, modifications, corrosion and smoke residue. The manual and any original accessories that came with the unit must be included. Note: We do not take data controllers,UHF/VHF amplifiers or antennas in trade.

■ **USED EQUIPMENT** After the purchase and receipt of USED equipment, there is a 10-Day Trial. During this period, if the equipment you received is unsatisfactory for any reason, you may return it for a refund, less shipping charges – both ways. If there is a defect, repair parts and labor are covered under a 30 Day Warranty. Return the equipment to the store it was purchased from, prepaid and insured. We will correct the defect and return it at no charge. Within 90 days after you receive our shipment of USED equipment, we will allow you Full Trade-in toward Higher Priced NEW equipment. To qualify, the condition of the item must be as it was when you originally received it from us.

Check our 24-hour BBS 414-358-3472
for Latest Updates on Used/New Equipment, Open Cartons & Demos
or... **call any AES® Store** - *We're Computerized!*

Save on New Equipment Open Cartons and Demos

The following is a list of brand New Equipment that has been demonstrated, on display or restocked. The cartons are no longer factory sealed, but each piece has been checked out in our service department and carries a 100% New Warranty. The letter after the price is the location at the time of inventory. **m** = Milwaukee; **w** = Wickliffe; **f** = Orlando; **c** = Clearwater; **v** = Las Vegas. Limited quantities – Order Now! Used equipment policies do not apply.

	Special
ADI	
AT-200 2.5W 2M HT	$149.95 v
AT-200HP 5W 2M HT	174.95 f
AEA	
ACARS/900 Aircraft Software/PK900	$45.00 v
AEA FAX III Fax/wire photo IBM soft	89.95 f
DM-1 Deviation meter	143.95 m
PCB-88 IBM plug in packet adapter	89.95 m
PC-Pakratt for Windows IBM soft	107.95 w
PC-Pakratt II IBM software	39.95 m
PK-12 1200 bps packet controller	99.95 mf
PK-232MBX Data controller	269.00 w
PK-900 Data controller / Refurb	439.95 f
PK-96 9600 bps packet 18K	179.95 m
PK-96 /100K 9600 bps packet	199.95 m
RL-60 radio link HF remote via HT	259.95 v
SWR-121 HF SWR analyst/Refurb	319.95 f
SWR-121 V/U VHF SWR analyst	359.95 mv
ALINCO	
DJ-180TH 5W 2M FM HT	$169.95 m
DJ-191T 2M FM HT	199.95 f
DJ-480T 440 FM HT	197.95 m
DJ-582T 2M/440 2.5W FM HT	299.95 m
DR-MO6T 10W 6M mobile xcvr	269.95 w
DR-600TB 2M/440 mobile xcvr	485.95 v
DR-605T 50W 2M/35W 440 mobile	429.95 f
DR-610T 2M/440 50/35W xcvr	569.95 f
DX-70 Compact HF xcvr/6M	799.95 m
EME-4 Earphone mic	29.95 v
EMS-8Z Speaker mic	42.95 m
ALPHA DELTA	
Delta-2 2 position coax switch	$44.95 m
Delta-2N 2 position switch N conn	58.95 m
RT 200W 500Mhz lightning protect	29.95 m
AMECO	
TPA tunable preamp.	$49.95 m
AMERITRON	
ALS-500M 600W PEP out linear	$609.95 m
ALS-600 700W PEP S.S. amplifier	999.00 v
ATR-15 1.5KW antenna tuner	314.95 v
QSK-5 Stand alone T/R switch.	269.95 f
RCS-8V 5 position remote switch	124.95 m
AOR	
AR-2700 .5-13000Mhz Rcvr/blkd	$189.95 v
AR-8000 .5-1900Mhz Scanner/blkd	539.95 v
SDU-5000 spec display.	799.95 m
ASTRON	
RS-12A 9 amp/12A surge power supply.	$71.95 w
RS-20A 16Amp 20 surge power supply	89.95 m
RS-35A/220 220 volt 25A /35A surge	152.95 m
RS-4L 3A 4A surge p/s w/cig socket	44.95 m
RS-7A 5A 7Amp surge p/s	53.95 m
12/115 200W inverter	58.50 m
AZDEN	
AZ-11 5W 10M HT	$339.95 m
AZ-21 5W 2M HT	269.95 m
AZ-61 5W 6M HT	339.95 fm
PCS-7000H 50W 2M mobile xcvr	299.95 m
PCS-7800H 50W 10M mobile xcvr	349.95 m
PCS-7800H 50W 10M new refurb	369.95 f
SDX-514W Speaker/mic	44.95 m
B&K	
2860 digital multimeter	$71.95 m
4011 Sweep generator	214.95 m
815 parts tester	74.95 m
BENCHER	
ST-1 single lever paddle	$63.95 w
BUTTERNUT	
HF-2V 80/160M vertical antenna	$170.95 v
CES	
410 Personal Patch interconnect	$152.95 m
COMET	
CM1200 1.2GHz mini-meter	$64.95 f
FP-19 900 mhz 16 db antenna	69.95 m
HA-4S 40/15/12/10M moble antenna	159.95 m
COMMUNICATIONS SPECIALISTS	
ID-8 auto morse station id'er	$80.95 m
CONNECT SYSTEMS	
CS-800 Full Duplex Patch/controller	$319.95 m
DAIWA	
CN-101 1.8-150Mhz SWR/Power meter	$81.95 m
DP-810 digital power meter	199.95 m
DAIWA	Special
DP-820 140-525 Mhz power meter	$224.95 w
DP-830 HF/140-525 digital RF meter	279.95 m
NS-660PA 1.8-150 mhz 3KW meter	179.95 m
DAVIS	
RG-4 rain collector	$29.95 m
WIZARD III weather station 7425	152.95 m
DRAKE	
R-8 shortwave reciever	$849.95 f
SW-8 shortwave reciever	629.95 mv
GROTHE	
VS-2 emergency vehicle siren	$69.95 m
VS-4 siren/PA unit	99.95 m
GRUNDIG	
YACHT BOY 230 swl receiver	$69.95 m
SATELLIT 700 swl receiver	449.95 w
HEIL	
BM-10-5 boom mic/headset/HC-5	$64.95 f
PRO MICRO 4 Mic/Headset w/HC4	94.50 m
PROSET 4 dlx boom mic/headset	117.95 m
PROSET 5 dlx boom mic/headset	117.95 m
PRO-54 Boom/Mic single headset/HC4	108.95 m
TB-1 Table Base for HM-10 mic	11.50 v
ICOM	
AD-15A power supply/R-100	$22.50 m
AG-35 mast mount 440 preamp	149.95 m
AH-2B bumper mount & whip ant	233.95 m
AT-150 auto tuner	475.00 mw
CP-12 cigarette lighter cord	25.95 m
CP-12L cigarette lighter cord	24.95 m
CT-17 CI-V level converter	109.95 m
GP-22 GPS receiver	249.95 m
HM-77A ttp mic/IC-706	103.95 m
IC-P4AT 440 mhz ht w/UT-50	219.95 mf
IC-T21A 2m HT w/440MHz receive	209.95 mf
IC-T22A 2m HT	229.95 f
IC-U400 uhf commercial mobile	404.95 m
IC-W2A 2M/440mhz HT/ttp	349.95 f
IC-W21AT 2M/440mhz HT/ttp	329.95 m
IC-X21AT 440mhz/1.2ghz HT/ttp	449.95 m
IC-Z1A 2m/440MHz ht w/remote mic	314.95 m
IC-2000H 50W 2M FM mobile	249.95 m
IC-2700H 2m/440MHz FM mobile	519.95 f
IC-2700H LTD 2m/440MHz w/HM90A	559.95 m
IC-4SAT 440MHz FM HT	319.95 c
IC-775DSP HF xcvr/ps/IF dsp	3699.95 v
IC-775DSP/CR282/FL102/222/223+	3980.00 v
IC-Z1A 2m/440 FM HT w/detach mic	399.95 m
IC-781 HF xcvr/tuner/scope	5199.00 f
M-5 5W marine band HT	299.95 m
M-56 25W marine band	219.95 m
R1-15 .1MHz-1.3GHz hand held rcvr	376.95 v
R7100-12 25mhz-2Ghz(blkd) rcvr	1199.95 v
SM-8 deluxe desk mic	129.95 f
JPS	
ANC-4 antenna noise canceller	$149.99 v
NF-60 Auto DSP audio notch filter	99.95 m
NIR-10 Dlx noise/notch DSP filter	199.95 m
KANTRONICS	
ANEMOMETER	$107.95 w
HOSTMASTER 64 software C64/128	49.95 m
KPC-3 packet tnc w/32K ram	99.95 m
KPC-4 packet tnc w/dual VHF port	199.95 m
SUPERFAX II demo software	44.95 w
KPC-9612 9600baud controller	179.95 v
KENWOOD	
DFK-3 9' separation kit TM742/942	$21.95 f
DFK-4 13' separation kit TM742/942	49.95 f
HS-5 headphones; NEW (no box)	69.95 f
IF-10D pc control interface/TS50S	80.95 v
IF-232C TTL/PC level converter	107.95 v
KQT-8 CTCSS/TSU-6	44.95 m
KSC-14 desk quick charger	79.95 m
MC-45DM hand mic	71.95 fv
MC-60A deluxe desk mic	134.95 mw
PS-33 light duty 20.5 amp p/s	169.95 m
R-5000 swl receiver	949.95 cf
SM-230 monitor scope TS-850/950	934.95 v
SP-50B slim external speaker	49.95 m
TH-79A(D) 2M/ 440 2.7W HT	386.95 w
TM-241A 2m 50W mobile xcvr	233.95 w
TM-742A 2m/440 mobile xcvr	659.95 m
KENWOOD	Special
TSU-8 CTCSS decoder	$53.95 m
TS-140S 9 band 12V hf xcvr	872.95 w
TS-450S Deluxe 9 band 12V hf xcvr	999.95 m
TS-60S compact 6M all mode xcvr	944.95 m
TS-790A 2M/440 all mode 12V base	1664.95 wm
TS-870S IF DSP 12V hf xcvr/tuner	2199.95 m
KLM	
CS-2 circularity switch	$49.95 m
MAGELLAN	
MERIDIAN XL GPS unit	$269.95 m
MFJ	
1020B indoor active rx antenna	$59.95 m
1022 active rx antenna	35.95 m
1040B Deluxe receiver preselector	79.95 m
1112 multiple DC outlet box	26.95 mv
114 large LED clock	35.95 m
1214PC Multimode interface for IBM	124.95 f
1272B TNC/Mic switch	35.95 v
1272BYV TNC/Mic switch KAM/vhf	29.95 m
1272M TNC/Mic switch MFJ/PK900	29.95 m
1274C TNC	89.95 m
1287BD 5 1/4 multicom disk only	35.95 m
1289 5 1/4 multicom software	39.95 m
1289M multicom software IBM	39.95 m
1700B combo antenna/xmitr switch	62.95 f
260CN 300W dummy load w/"N"	31.95 m
283 speaker mic fits Alinco 160 ht's	22.95 m
284 speaker mic fits ICO/YAE/ALI	22.95 m
285 speaker mic fits YAE ht's	14.95 m
401C electronic keyer	44.95 m
4110 portable p/s MFJ xcvrs	35.95 m
4114 rechargeable p/s MFJ xcvrs	58.95 vf
432 voice keyer	89.95 m
47B 128K memory/1270/1274	49.95 m
48B 1278B upgrade	21.95 m
624D phone patch	76.95 m
704 1KW low pass filter	35.95 v
726 plug in audio filter MFJ xcvrs	19.95 m
914 auto tuner extender	53.95 m
916 2m/440 antenna duplexer	24.95 m
924 440MHz 300w tuner/swr/wattmeter	62.95 v
956 LW/MW/SW preselector/tuner	34.95 v
962C 1.5KW PEP antenna tuner	199.95 w
MIRAGE	
B-5016G 2m FM/SSB 160W amlifier	$242.95 mv
C-1012G 10/120W 220Mhz amp	269.95 m
D-15N 430 FM/SSB 2/18W amp	152.95 m
KP1/10M in-shack preamp	112.95 m
KP2/2M mast mount preamp	149.95 m
MP-3 420-450MHz 500W PEP meter	169.95 m
OPTOELECTRONICS	
SCOUT/400 10-2800mhz counter	$349.95 m
PALOMAR	
.55/1.6MHZ plug-in loop	$79.95 m
LA-1 Loop amp(requires plug in loop)	89.95 m
1.65MHZ Loop	79.95 m
PERIPHEX	
BP-85S battery (ICOM 24AT series)	$68.95 v
EBP-22S battery (ALINCO 580/180)	58.95 v
PB1 12V/800 ma battery Kenwood	54.95 m
PB25 8.4V/1.4A battery Kenwood	55.95 m
RACOM	
700 automatic morse code identifier	$82.95 m
700PC programming kit	27.00 m
RANGER	
RCI-1000/GB 154.6/154.75 mhz HT	$124.95 m
RCI-1000/RB 151.625/154.57mhz HT	124.95 m
RCI-6060 marine xcvr	149.95 mc
RF CONCEPTS	
VHF-160 2M 1/60W amplifier	$206.95 m
3-312 220Mhz amplifier	269.95 w
SANGEAN	
ATS-800 SW receiver	$69.95 f
ATS-808 SW receiver	134.95 v
DT-200V receiver	39.95 m
SGC	
54-12/SG-230 automatic tuner	$439.95 v
55-27 SG-303 1.8-30 9' ant & mt	404.95 m
SONY	
ACE-60HG 6V p/s	$12.95 m
AN-102 portable SWL antenna	69.95 m
SONY	Special
ICF-SW100S portable SW receiver	$319.95 mv
ICF-SW33 portable SW receiver	152.95 v
ICF-SW55 portable SW receiver	314.95 m
ICF-2010 portable SW receiver	319.95 m
IPS-760 deluxe GPS unit	599.95 m
STANDARD	
C-188A 2M FM thin HT	$244.95 wf
C-288A 220MHz FM HT	328.95 mv
C-528A 2m/440MHz FM HT	395.95 m
C-559A 2m/440MHz FM HT	494.95 m
C-5608DA 50w 2m/40w 440 mobile	629.95 f
C-568A 2M/440MHZ/1.2GHZ ht	539.95 v
CSA-181A desk rapid charger	99.95 m
TRIPP LITE	
PR-30 24 amp power supply	$109.95 m
UNIDEN	
BCT-10 Beartracker scanner	$149.95 m
BC-177XLT 16ch scanner	99.95 f
BC-3000XLT hand held scanner	339.95 m
BC-60XLT hand held scanner	69.95 f
BC-760XLT 100ch mobile/base scan	189.95 f
BC-80XLT hand held scanner	149.95 m
BC-890XLT 200 ch base scanner	224.95 m
BC-9000XLT w/BC005 CTCSS opt	419.95 w
HH-979 5W VHF Marine HT	149.95 m
HR-2510 25W 10M mobile	206.95 w
MC-790 marine mobile xcvr	149.95 m
UST (Truck ship/store pick-up only)	
HDP service platform/HDX555 NEW!	$299.95 mf
VALOR	
MM-3401 3 5" magnet mount	$45.00 w
PAT-2 trunk lip mount only	19.95 v
VECTRONICS	
PM-30UV meter	$49.95 m
VC-300D digital antenna tuner	169.95 mf
VC-300DLP 300W antenna tuner	130.95 mf
VC-300M 300W mobile antenna tuner	109.95 m
VIBROPLEX	
145 BRASS RACER iambic paddle	$79.95 m
110 ORIGINAL STANDARD bug	99.95 m
WILMORE	
1365 24-12V 10a converter	$49.95 m
YAESU	
ADMS-1 programming software	$29.95 m
ADMS-1C programming software	34.95 m
FL-7000 Solid State HF amp/tuner	1949.95 mf
IF-232C RS-232 interface	107.95 m
FNB-14 1000ma 7.2V battery	63.95 v
FNB-33 1200ma 4.8V battery	74.95 m
FP-800HD 20amp power supply	259.95 m
FRC-4 pager unit	40.50 m
FT-10/40BA16D 2.5W 2m ht	269.95 m
FT-10/41BA16 5W 2m 30ch HT	249.95 m
FT-10/41BA16D 5W 2m 99ch HT	278.95 m
FT-10/41BA16S 5W 2m 99ch DVR HT	288.95 m
FT-1000D 9 band 200W hf xcvr	3149.95 w
FT-1000D Deluxe hf xcvr(REFURB)	2799.95 f
FT-1000MP HF EDSP xcvr(REFURB)	2799.95 f
FT-1000MP/DC 9 band EDSP hf xcvr	2599.95 f
FT-11R/HP 5W 2M FM HT	269.95 m
FT-50R/41B 2m/440 2W HT	305.95 v
FT-51R 2W 2m/440 HT	449.95 f
FT-76/25 440 FM HT	206.00 w
FT-8000R 2m/440 50/35w mobile	494.95 m
FT-8500 2m/440 50/35w mobile	569.95 m
FT-8500 /MH-39 2m/440 50/35w	539.95 m
FT-900 HF 12V xcvr	1079.95 m
MD-1C8 desk mic	109.95 fv
MH-100A8X desk microphone	119.95 fv
MH-32A2B speaker microphone	36.00 m
MR KIT-1 rack mount for VXR rptrs	149.95 m
NC-29 rapid charger FNB12S/14/17	64.95 f
NC-50 1-hr dual slot quick charger	99.95 mv
SP-3 external speaker	19.95 m
SP-6 external speaker/filter	152.95 v
VXR-5000UCDC 440 25W repeater	1099.95 m
VXR-5000VADC 2M 25W repeater	1099.95 m
YH-2 boom mic/headset	29.95 m
YSK-8500 remote kit/FT-8500	61.95 m
YA-30 1.8-30mhz dipole	199.95 m
YS-60 1.8-60MHZ 2KW PEP meter	116.95 m

AES® Consumer Equipment Price List

CORDLESS PHONES

COBRA (COB)

	Reg	Sale
CP-706 Ivory cordless ph w/scrambler .....Dm	$129.95	79.95
CP-912 900MHz 100ch dig spread spectrum	369.95	249.95

UNIDEN (UNI)

CT-301 Cordless phone .....Dmwf	$ 69.95	49.95
DX-4519 25 ch scrambled cordls ph ...Dmwfc	129.95	89.95
DX-3555 25 ch scrambled dual pad cordless	159.95	109.95
EXP-9100 900 MHz digital spread spectrum .	459.95	269.95
XC-3510 25 ch cordless phone	109.95	79.95

CB RADIO

Antenna Specialists (ASP)

MR125 Rooftop antenna, spring, 3/8" hole	$ 41.95	
MT178 Magnet mt antenna	49.25	
M-906 Cellular style on glass CB antenna	49.95	

CHEROKEE (CHR)

AH-27 Handheld CB		119.95

COBRA (COB)

7 Ultra AM Mobile	$ 62.95	49.95
18 Ultra AM Mobile	109.95	69.95
19DX AM Mobile	79.95	49.95
19LTD II AM Mobile	89.95	59.95
21LTD WX AM Mobile w/WX	119.95	89.95
25LTD (25 Classic) AM Mobile	139.95	99.95
25LTD WX AM Mobile w/WX	179.95	109.95
29LTD (29 Classic) AM Mobile	189.95	129.95
29LTD WX AM Mobile w/WX	219.95	139.95
HH-70 AM Remote	169.95	109.95
93LTD WX AM Base w/WX/tone alert	189.95	129.95
148GTL SSB/AM Mobile	329.95	199.95
148F GTL SSB/AM Mobile	369.95	219.95
2010GTL WX SSB/AM Base w/WX	659.95	349.95
HH-35 AM portable CB Xcvr	89.95	69.95
HH-40 5w 40 ch 27 MHz CB walkie-talkie	159.95	99.95
AT-60 Trunk lip/roof mt antenna	19.95	
AT-70 Magnet mt antenna	24.95	

UNIDEN (UNI)

PC-66XL AM Mobile	$129.95	89.95
PC-76XL AM Mobile	179.95	109.95
PC-76XLW AM Mobile w/WX alert	189.95	129.95
PRO-340XL 40 ch portable w/rubber ant	89.95	59.95
PRO-350XL 40 ch handheld CB radio	149.95	99.95
PRO-501XL AM Mobile	49.95	39.95
PRO-510XL AM Mobile	69.95	44.95
PRO-510AXL AM Mobile w/magnet mt ant	69.95	49.95
PRO-520XL AM Mobile	89.95	59.95
PRO-538W AM Mobile w/WX	109.95	74.95
PC-122XL SSB/AM Mobile	199.95	129.95
Grant-XL SSB/AM Mobile	269.95	169.95
Washington SSB/AM Base	349.95	249.95

SCANNERS

AOR (AOR)

SC-2700 Soft case for AR-2700 .....Δm	$ 24.95	
AR-3000A .1-2036MHz dlx w/SSB/cell blkd	1329.95	1049.95
MM-1 Mobile mounting bracket; AR-3000A	24.95	
SDU-5000 Spec disp; AR3000A/Icom Base .	1199.95	899.95
AR-5000 .01-2600MHz scan/cell blkd/spec ord	2199.95	1799.95
AR-8000 .5-1900MHz hand w/SSB/cell blkd	799.95	599.95
SAC-8000 Opt Scout/AR8000 connect kit	29.95	
SC-8000 Soft case for AR-8000	24.95	

Antenna Specialists (ASP)

MONR1 H or U low profile roof mt monitor ant .	$ 23.50	
MON-9 H & U magnet mt monitor antenna	35.25	
MONR31 L/H/U gain ground plane base ant	55.25	

BMI (BMI)

Nitelogger II Auto recorder activator	$ 69.95	
RC-1A Impedance matching patch cord	19.95	

CHANNEL MASTER (CHA)

5094A 4-band base Monitenna ant w/50' coax .	$ 47.95	39.95
5095A 5094A ant/5' tri-mast/50' coax .Dmwfv	59.95	49.95

COBRA (COB)

SR-11 10 ch prog pocket scanner .....Df	$219.95	59.95

GROTHE (GRO)

	Reg	Sale
VS-2 Emergency vehicle siren	$ 99.00	89.95
VS-2L/A Window mt siren/amber light	249.00	
VS-2L/B Window mt siren/blue light	249.00	
VS-2L/R Window mt siren/red light	249.00	
VS-2LS/A Window mt siren/amber strobe	299.00	
VS-2LS/B Window mt siren/blue strobe	299.00	
VS-2LS/R Window mt siren/red strobe	299.00	
VS-3 Volunteer vehicle PA/horn w/spkr	159.00	129.95
VS-4 P/A emergency vehicle siren w/spkr	169.00	139.95

MAXON (MAX)

WX-70 Weather monitor w/alert	$ 69.95	39.95

Monitor America (MON)

Monitor America Scanner frequency book	$ 29.95	

PERCON (PEC)

Spectrum* FCC database CDROM .....†	$ 29.95	19.95

* **$9.95** with purchase of any radio!

UNIDEN BEARCAT (UNI)

BCT-2 Pre-prog warning scan/AC ps .....Dmf	$239.50	99.95
BC-147XLT-1 16 ch prog scanner/instant WX	169.95	99.95
BC-148XLT-1 20 ch prog scanner/WX alert	179.95	99.95
BC-178XLT 100 ch prog scan/air/WX alert	249.95	139.95
BC-350A 50 ch prog/service search w/AC ps .	199.95	119.95
BC-560XLA 16 ch prog scanner/AC ps	169.95	99.95
BCT-7 Pre-prog warning scan/air/800/AC ps .	319.95	189.95
BCT-10 Pre-prog highway info sys scanner	369.99	179.95
BCT-12 Pre-prog mobile warning scanner	319.95	199.95
BC-700A 50 ch prog/svc search/800/AC ps	299.95	169.95
BC-760XLT 100 ch prog/svc search/800/AC ps	369.95	219.95
BC-002 CTCSS tone board; BC-760XLT	51.89	
BC-003 Switch box for BC-002	10.70	
BC-004 RF preamp for BC-760XLT	27.80	
BC-860XLT 100 ch prog scanner/air/800	319.95	189.95
BC-890XLT 200 ch 956 MHz scanner/WX alert	439.99	249.95
BC-002 CTCSS tone board; BC-890XLT	51.89	
BC-9000XLT 500 ch 25MHz-1.3GHz	769.95	429.95
BC-005 CTCSS tone board; 8500/9000XLT .	37.89	
BC-60XLT 10 ch prog pocket scanner .....Dmv	169.95	79.95
BC-60XLT-1 30 ch prog pocket scanner	169.95	99.95
AD-100 AC adapter/batt cgr	16.89	
PS-001 DC power cord	8.89	
BC-80XLT 50 ch prog pocket scanner/800	309.95	169.95
BP-70 Extra battery for BC-70XLT .....Δm	27.80	
AD-140 Extra charger; BC-100XLT/200XLT	13.29	
BP-200 Extra battery; BC-200XLT	32.82	
BP-205 Extra battery; BC-100XLT	37.23	
BC-120XLT 100 ch prog pocket w/aircraft	249.95	149.95
BC-220XLT 200ch prog pocket/800 MHz Dmwv	439.95	219.95
BC-230XLT 200ch prog pock/air/800/xtra batt	439.95	239.95
SC-150B 100 ch black sport pocket/800	329.95	189.95
AD-70 Extra charger	13.49	
BP-120 Extra battery	18.29	
LC-120 Carrying case; BC120/220/230XLT .	19.59	
LC-150B Carrying case for SC-150B	19.59	
UA-502 Cig power cord	12.19	
BC-3000XLT 400 ch 25MHz-1.3GHz pocket	699.95	399.95
BP-2500 Extra batt; BC-2500/3000XLT	32.49	
LC-2500 Carrying case; BC-2500/3000XLT	19.95	
NPD-001 National frequency book .....†	14.95	9.95
RFD-001 IN/IL/KY/OH/MI/WI freq book	14.95	

RADAR DETECTORS

COBRA (COB)

RD-3170 Deluxe superhet detector .....Dm	$299.95	49.95
RD-4120 Super heterodyne detector .....Dm	209.95	29.95

LAND MOBILE

COURIER (COU)

Procom* 2w VHF FM hand-held/batt/cgr Δmwf	$199.95	99.95
AUC-12 Cig lighter charger adapter ...Δmw	12.00	5.95
CAT-12 Leather carrying case .....Δmw	22.50	12.95
RB-7 Extra nicad battery pack .....Δmw	32.00	24.95

*Freq **A** (red) - 151.625 MHz *Freq **B** (blue) - 154.570 MHz
*Freq **C** (green) - 154.600 MHz

COURIER - continued

	Reg	Sale
M-54 5w 4ch VHF FM hand-held/batt/cgr/151.625	299.95	199.95
M-510 5w 10ch synth VHF FM hand-held	399.95	269.95
MU-510 5w 10ch synth UHF FM hand-held	439.95	299.95
CCK-510 Cloning cable for M-510/MU-510	18.75	
U-22* 2w 2ch UHF FM hand-held/batt/cgr Dmf	279.95	139.95

*Frequency **A** - 462.575MHz *Frequency **E** - 464.550MHz

ICOM (ICO)

IC-F10-1 2w 146-174MHz 24 ch HT .....Δm	$495.00	349.95
IC-F20-2 2w 440-470MHz 24 ch HT .....Δm	559.00	399.95
AD-54 Cgr adapt; BM113U; F10/F20 .....Δm	34.00	29.95
BM-113U Trickle charger; F10/F20 .....Δm	26.00	22.95
EX-1690 PC prog software; F10/F20 .....Δm	40.00	34.95
OPC-478 PC prog cable; F10/F20	46.00	
OPC-474 HT - HT clone cbl; F10/F20 ..Δmw	15.00	12.95
A-3 5w PEP aircraft handheld	655.00	499.95
A-22 5w PEP compact Navicom air handheld	720.00	549.95
A-200 Panel mt aircraft Xcvr special order	1069.00	899.95

MAXON (MAX)

MX-49FX 5 ch 49 MHz ear mic Xcvr	$ 89.95	49.95
MX-49HX 5 ch 49 MHz euro-design headset Xcvr	89.95	49.95
MX-49SX* 49 MHz euro-design headset Xcvr	59.95	29.95

*Available in channels **A**, **B**, & **E**; limited qty's in channel **D**

PC-10* 49MHz handheld/PTT/VOX headset Dmf	59.95	29.95

*Available in channels **A**, **B**, & **E**

PC-50 5ch 49MHz hand-held/PTT/VOX headset	79.95	49.95
GMRS-10 100mw 462.625 MHz handheld Dm	119.95	69.95

RANGER (RAN)

RCI-1000* 1w 2ch VHF FM hand-held/batt/cgr	$199.00	139.95
BT-10 Extra nicad batteries	29.95	24.95
DG-10 Desk charging stand (use wall cgr) .	14.95	
LC-1000 Leather case	24.95	19.95
MT-17 CTCSS encoder/decoder	54.95	49.95
SRA-106A Speaker/mic .....Dmf	44.95	26.95
SRA-107 Speaker/mic	44.95	39.95

***A** - 151.625+154.570 MHz ***C** - 154.600+154.570 MHz

MARINE VHF FM RADIO

ICOM (ICO)

M-2 5w synthesized marine hand-held .....Dw	$659.00	269.95
IC-M10A (01) 3w marine hand-held/AA holder	304.00	199.95
M-710 (01) 150w HF marine SSB ..spec order	2025.00	1369.95
AT-130 HF marine auto ant tuner spec order	750.00	529.95

KENWOOD (KEN)

TKM-707 150w HF marine SSB Xcvr spec order	1999.95	1239.95
KAT-1 HF marine auto ant tuner ....spec order	999.95	619.95

MAGELLAN (MAG)

GPS-2000 GPS receiver	$279.99	199.95
GPS-4000 GPS receiver w/carrying case	349.99	249.95
00-69007-000 External power module	49.99	
Meridian XL GPS/track plotter/detach ant/case	399.00	299.95

MOTOROLA (MOT)

HSN9690 Hailer speaker .....Δm	$ 40.00	9.95

RANGER (RAN)

RCI-6060 25w VHF marine Xcvr w/scan	$279.00	169.95
RCI-8000 5w VHF marine handheld	279.00	169.95

UNIDEN (UNI)

MC-535 25w 90 ch VHF marine Xcvr	$199.99	139.95
MC-635 25w 90 ch VHF marine Xcvr w/scan .	249.99	149.95
MC-795 25w 90 ch VHF marine Xcvr w/prog	299.99	169.95
HH-979 5w 90 ch marine hand-held/scan	259.99	159.95
HH-980 5w 90 ch deluxe marine hand-held	399.99	229.95

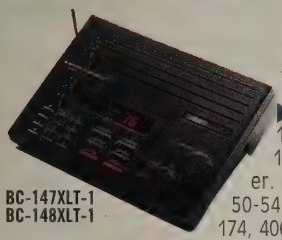
SHAKESPEARE (SHA)

396-1 3 db, 5' antenna, less mount	$104.95	59.95
497 6 db, 8' antenna, less mount	86.50	49.95
5202 6 db ant w/chrome ferrule, less mt	130.50	69.95
5206-C Economy 8' ant w/chrome ferrule, no mt .	56.95	39.95
366H Chrome zamac ratchet mount	41.95	29.95
495 White plastic lift & lay mount	20.95	14.95
420 3 db, 5' ant w/fold-down mount	94.50	59.95
420-M-2 3 db, 5' mast mount antenna Δmwf	113.50	14.95
5204-8 Combo CB/VHF marine 8' antenna	188.95	99.95

Popular Scanning Receivers

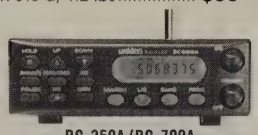
uniden®

Scan the Action!
- Ham Radio
- Police, Fire
- Emergency
- Weather
- More ...


BC-147XLT-1
BC-148XLT-1

▶UNIDEN BC-147XLT-1 16 channel Base unit with 10 bands, including weather. Covers 29-29.7, 29.7-50, 50-54, 136-144, 144-148, 148-174, 406-420, 420-450, 450-470 & 470-512MHz. Two-digit LED display shows the current channel selection and scanning. Keyboard Entry; Direct Channel Access; Manual Step Tuning; Scan; Lockout; Priority; Review; Weather Search; Automatic Squelch; Track-Tuning; Memory Back-up, 3 Scan Speeds. 9"w x 2¾"h x 6½"d, 1.2 lbs..... **$99.95**

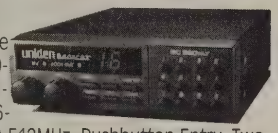
▶UNIDEN BC-148XLT-1 16 channels, 10 bands with weather alert. Programmable; Digital; AC/DC operation. Frequency coverage: 29-54, 136-174 and 406-512MHz. Weather button; Priority; Lockout button; Squelch. AC adapter and telescoping antenna included. 9"w x 2¾"h x 6½"d, 1.2 lbs..... **$99.95**


BC-350A/BC-700A

▶UNIDEN BC-350A 50 channel Mobile/Base unit with aircraft; 11 bands, LCD display; Super Turbo scan™, 100 channels/second. 20 programmable private channels; 20 programmable police channels; 10 programmable fire and emergency channels; Band scan for aircraft; Marine & weather; Band search. Mounting bracket; AC adapter, DC & cigarette power cords included. 5¼" x 6 15/16" x 1⅝", 1 lb. 11 oz.. **$119.95**

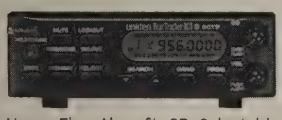
▶UNIDEN BC-700A 50 channel programmable Mobile or Base unit scanner with aircraft 12 bands, LCD display, Turbo Scan™.Same as BC-350A with 800MHz (no cellular).... **$169.95**

▶UNIDEN BC-178XLT 100 channel programmable Base unit with aircraft. 11 bands. and 5 scanning banks, LCD display; TurboScan™ & search; Weather scan & search; 5 priority channels; Data skip; Service search; Automatic squelch; Programmable delay, AC adapter included. 9" x 6½" x 2¾", 1 lb. 7 oz..... **$139.95**



▶UNIDEN BC-560XLA 16 channel, programmable mobile unit. 10 bands: 29.0-29.7, 29.7-50, 50-54, 136-144, 144-148, 148-174, 406-420, 420-450, 450-470 & 470-512MHz. Pushbutton Entry; Two-Digit LED Display; Review Key; Priority; Memory Back-up; Channel Lockout; Direct Channel Access; Weather Search; Built-in Delay; Track Tuning. 13.8V DC. Mobile mounting bracket and AC adapter. 6⅞"w x 1⅝"h x 5½"d, 1¼ lbs..... **$99.95**

▶UNIDEN BC-760XLT 100 programmable channels, 5 scanning banks. 12 bands cover 29-54, 118-136, 144-174, 406-510, 470-512 & 806-956 MHz (no cellular). Auto search; Priority. 13.8V DC or 117V with adapter. 6 1/16"w x 1⅝"h x 7¾"d, 1 lb, 3 oz... **$219.95**

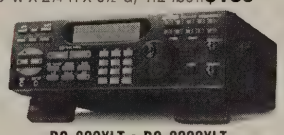


▶UNIDEN BCT-7 Bear Tracker 800 Pre-programmed with all frequencies for Highway Patrol, D.O.T, Local/County Police, News, Fire, Aircraft, CB. Selectable by state (except Hawaii). 12 bands, 100 user programmable channels: Highway Patrol Priority Alert; Data Skip, Weather Scan. AC adapter and mobile mount. 13.8V DC, 5"w x 7"d x 1⅝"h, 1 lb, 11 oz **$189.95**

▶UNIDEN BearTracker BCT-10

Highway Information System A sophisticated highway alarm system with 886 pre-programmed frequencies that responds to radio signals emitted from special secondary transmitters installed on most highway patrol vehicles. Audible and visual alarms, plus signal strength LEDs indicate the presence and distance of patrol vehicles..... **$179.95**

▶UNIDEN BC-860XLT Programmable scanner with Aircraft. 100 channels, 12 bands, 10 banks. Covers 29 to 956 MHz (no cellular). Full frequency LCD display; TwinTurbo™ scan/search; One-touch weather scan; Manual channel access; Automatic squelch; 9"w x 2¼"h x 6½"d, 1.2 lbs. **$189.95**


BC-890XLT • BC-9000XLT

▶UNIDEN BC-890XLT 200 channel programmable Mobile/Base w/Aircraft, Military Air and 1¾ meter Ham Band. 14 bands, 10 scanning banks. LCD display, TurboScan™; 10 priority channels; VFO control; Frequency transfer; Autostore/sorting; Count key; Weather alert; Optional CTCSS; AC adapter. 10½" x 7½" x 3½", 3¾ lb **$249.95**

▶UNIDEN BC-9000XLT 500 channel continuous band scanner, covers 25-1300 MHz (no cellular). 20 banks. VFO control; 10 priority channels; AM, FM/wide FM modes; TurboScan™ and Search; LCD dot matrix alpha display; Data skip; Frequency transfer; Automatic store; Aux. line output for recording; AC adapter, optional CTCSS. 10½"w x 7½"d x 3½"h, 4 lbs....**$429.95**

BC-60XLT-1
BC-80XLT

▶UNIDEN BC-60XLT-1 30 channel, programmable handheld scanner, 10 bands. Two-digit LCD display; review; One touch weather battery-low indicator, built-in scan delay, keypad lockout, AC/DC operation with AC adapter included; 4AA batteries required for DC operation. 2⅝"w x 6¾"h x 1½"d, 10½ oz **$99.95**

▶UNIDEN BC-80XLT 50 channel, programmable handheld scanner. Covers 29-956MHz (no cellular). 11 bands, 5 banks, 5 priority channels, one touch weather. Manual channel access; Bands search; Full frequency LCD display; Battery-low indicator. AC /DC operation-AC adapter included, 4-AA Nicad or alkaline batteries (not included) required for DC operation. 2⅝"w x 6¾"h x 1½"d, 10½ oz..... **$169.95**

BC-120XLT
BC-230XLT

▶UNIDEN BC-120XLT 100 channel programmable handheld scanner with Aircraft coverage. 11 bands, 10 scanning banks, LCD display, Turbo Scan™ and search. One touch weather, 10 priority channels, data skip, memory backup. Belt clip, battery and wall charger included. 2½"w x 1¾"d x 6"h, 12½ oz.... **$149.95**

▶UNIDEN BC-230XLT 200 channel programmable handheld scanner with Aircraft & 800 MHz (no cellular). 12 bands, 10 scanning banks. Programmable search. LCD frequency display, Turbo Scan™ and search. One touch weather access, 10 priority channels, data skip, memory backup. Belt clip, extra battery, wall charger. 2½"w x 1¾"d x 6"h, 12½ oz..... **$239.95**

BC-3000XLT

▶UNIDEN BC-3000XLT 400 channel continuous band scanner. Covers 25 to 1300MHz (no cellular) in 12 bands. 20 scanning banks, 10 priority channels. VFO control; TurboScan™ and search, auto-weather, auto-store; channel lockout. Rechargeable nicad battery and charger. 2½"w x 1¾"d x 6"h, 12½ oz **$399.95**

▶UNIDEN SC-150B "SPORTCAT" 100 channel programmable handheld scanner with aircraft and 800 MHz (no cellular). Designed for the racing fan with 10 one-touch, direct access keys for instant selection of active sports channels. Listen in on the action at motor racing, air shows and special events.12 bands, 10 scanning banks. LCD display, programmed band search. TurboScan™ scans at 100 channels/second, allowing instant access to up to 100 memorized frequencies in the 29-54, 108-174, 406-512 & 806-956MHz band. Ten preprogrammed TurboSearch™ keys allow band-edge to band-edge frequency locating at 300 channels per second. One-touch weather, data skip. Rechargeable battery pack, wall charger, flexible antenna, belt clip, earphone included. 2½" w x 1¾"d x 6"h, 12 oz..... BLACK **$189.95**

SC-150B

AOR® Scanning Receivers

AR-8000 AR-3000A

▶AOR AR-3000A Scanner/Receiver for serious wide-spectrum monitoring. Continuous tuning via keypad or dial 100kHz to 2036 MHz (cellular blocked). All-mode reception, 400 memory channels, 50 channels/second scan and search rate. 15 band-pass filters and low noise, wide dynamic range GaAs FET RF amplifiers. Backlit LCD display, programmable tuning steps, priority, delay, recorder activator. Operates from 9 to 16V DC. Includes 120V AC adapter, BNC telescopic whip and DC lead. 5½"w x 3"h x 7⅞"d, 2.5 lbs **$1049.95**

▶AOR AR-8000 All-mode, wide-band receiver for general purpose monitoring. Covers 500kHz to 1900 MHz (cellular blocked), 1000 memory channels. Top-panel rotary knob tunes frequencies and channels, dual VFOs toggle between two-frequency simplex. Selectable tuning steps, 30 channels/second scan/search speed. Large, edge-lit, multi-line, 44 character alphanumeric display. Enter 7 characters of information and store along with frequency and other settings in the 1000 memories. Second-radio cloning capability, power saver. New user mode for initial ease of operation, and expert mode. Uses nicad or alkaline batteries; nicads and charger included. 2¾"w x 6"h x 1½"d,13 oz **$599.95**

ICOM Wideband Scanning Receivers

▶R-1-15 Handheld Receiver – covers 100kHz - 800MHz and 900-1300MHz. FM, wide FM & AM modes. Rotary tune or direct keyboard entry. 100 memories, scanning, LCD display, 24-hour clock/timer, signal indicator, power-saver. Rechargeable battery, AC wall charger/adapter, belt clip. 1⅞"w x 4"h x 1½"d..... **$429.95**

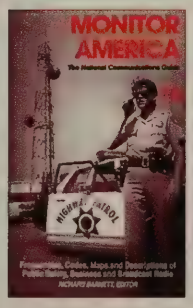
▶R-100-11 For Base or Mobile. Covers 100kH-799MHz and 900-1856MHz. FM, wide FM and AM modes. Keyboard or Manual tuning. Scan functions, 121 multi-function memories, convenient 24-hour clock, 3 antenna inputs, telescoping antenna, mobile mount. 13.8VDC, 5¾"w x 2"h x 7½"d, 3 lbs..... **$669.95**

Channel Master Scanner Antenna

E-X-T-E-N-D your scanner range many times with an externally mounted Channel Master Monitenna. This wide-band antenna provides best scanner reception for the 30-50, 148-174, 450-470, 470-512 and 800-912 MHz bands.

▶Model 5094A High-strength aluminum, and weather protected. Comes with 50 ft. length of coaxial cable and Motorola-type plug **$39.95**

▶Model 5095A Everything for a roof-top installation: Monitenna, 50 ft. of coaxial cable with plug, 5 ft. tri-mast mount, 2 ft. extension standout, double headed nails and sealing washers .... CLOSEOUT **$49.95**



MONITOR AMERICA

The National Communications Guide

Third Edition, 1108 pages. A complete listing of public safety and business radio communications of almost every community in the nation. Includes maps, tone codes and repeater input-output frequencies. Listings of AM and FM radio stations with frequency and formats. Race car teams, special sections on Disney and other vacation spots, much more! **$29.95**

maxon SYSTEMS Personal Communicators

Low Power • 1/4 mile average range • No license

Dual conversion superheterodyne receivers provide crisp, clear voice transmission. Compatible use for group communications. Push-to-talk (PTT) or convenient Voice activated (VOX) lets you talk-to-transmit.

CHANNELS: (A) 49.830 MHz **(B)** 49.845 MHz **(C)** 49.860 MHz **(D)** 49.875 MHz **(E)** 49.890 MHz

▶**MX-49SX** Single-channel unit featuring a lightweight adjustable headset with retractable whip antenna, LED indicator, boom microphone with windscreen and battery charger jack. Range up to 1/4-mile. Requires two "AA" regular or rechargeable batteries. 5"w x 2½" x 1", 9 oz. **Specify channel A, B, or E** .. **$29.95**

▶**MX-49FX** 5 channels and a combination earphone-microphone that that picks up voice vibrations from the ear canal for transmit, and also provides receive audio. Built-in antenna gives up to 1/8-mile range, and will not interfere with helmets. Remote PTT button and channel selector. Requires 3 "AA" batteries. 5½"w x 3" x 1", 6 oz. **Channels A, B, C, D & E** **$49.95**

▶**MX-49HX** 5 channels, great for motorcycling, snow mobiling, etc. The helmet-adaptable headset has a whip antenna and boom microphone with windscreen. VOX or PTT with on-unit or remote switch. Front mounted off/on and volume, VOX sensitivity and channel selector. Jacks for optional passenger intercom headset. Requires 3 "AA" batteries. 5½"w x 3" x 1", 6½ oz. **Channels A, B, C, D & E**..... **$49.95**

▶**PC-10** Single channel, compatible with all Maxon 49MHz units. PTT or VOX.operation. Detachable headset with boom microphone included. Approximately 1/4-mile range. VOX or PTT operation, call tone. Requires 3 "AA" alkaline batteries. **Specify channel A, B, or E** ..**CLOSEOUT $29.95**

▶**PC-50** Similar operation as the PC-10, but **5 channels – A, B, C, D & E**..... **$49.95**

Low Power VHF & UHF Handhelds

Ideal for short range communications...

Recreation, construction sites, in factories, security work, etc.

▶**COURIER M-510** 10 synthesized VHF channels programmable 144 to 174MHz. 5W output. Rechargeable nicad battery, AC charger, flexible antenna, F.C.C. license application included. 4¼"h x 2⅛"w x 1⅜"d, 15 oz..... **$269.95**

▶ **COURIER MU-510** 10 synthesized UHF channels programmable from 450MHz–470MHz. 5W output. Rechargeable nicad battery, AC charger, flexible antenna, F.C.C. license application included. 4¼"h x 2⅛"w x 1⅜"d, 15 oz..... **$299.95**

▶**COURIER M-54** VHF, 4 channels, 5W, comes with 151.625 MHz installed.5¼"h x 2⅜"w x 1½"d 15 oz..... **$199.95**

▶**RANGER RCI-1000** Two VHF channels, 1W output. Includes two sets of crystals installed for 151.625 and 154.57MHz or 154.60 and 154.57MHz. Rechargeable nicad battery and AC charger, flexible antenna. 4⅞"h x 2½"w x ⅞"d, 12 oz **$139.95**

▶**MAXON GMRS-10** UHF, single channel with 462.625MHz. 100mW output – up to one mile range. Requires 3 "AA" alkaline batteries. 6"h x 2½"w x 1½"d, 8.2 oz .....**CLOSEOUT $69.95**

Order Toll Free & use your Credit Card!

VHF Marine Equipment

RANGER Communications, Inc

▶**RCI-6060 Marine VHF Radio** • All U.S. and International Channels • 4 Weather Channels • Keypad entry • All channel scanning • Direct Access to Channel 16 • Dual-Watch Mode • Selectable 5W or 1W Output • Power Up/Down Microphone Switch • Backlit LCD Display • External Speaker and PA Jacks • Weather Resistant Housing • 3"h x 7½"w x 8¼"d, 2 lbs..... **$169.95**

▶**RCI-8000 Handheld Marine VHF Radio** All USA & International Marine Channels • 10 weather Channels • All Channel Scan • Dual Watch • Direct Channel 16 Access • 5W/1W Output • Back-lit LCD Display • Weather Resistant Housing • Rechargeable Battery Pack with Wall Charger • External Power Jack • Time-out Timer • 2⅜"w x 1½"d x 7⅝"h, 1.2 lbs **$169.95**

SGC Comercial Grade HF Transceiver

The First Class Marine Companion!

▶**SG-2000** Rugged commercial grade 150W HF transceiver. Operates A3A, A3H, A3J and CW in LSB and USB, true AM in receive mode, and Data. Programmed with 644 ITU channels and 100 user defined channels that can be set to frequencies within the 1.8–30 MHz range; receives 500kHz-30MHz. Keypad control with 21 illuminated keys. Scans ITU channels and 100 memories. Adjustable scan speeds/rates. Large, wide-angle LCD with adjustable backlighting for easy night viewing. Operates as a single unit, or the front panel can be removed to function as a remote head. Computer control via RS-232. 12VDC @ 16A. 4¾"h x 10"w x 15"d, 12 lbs **SGC 04-01 $1479.00**

▶**SG-230 The Smartuner®** Automatic HF antenna tuner capable of tuning any length antenna from 8 to 80 ft. long within 1.8–30MHz. Rated up to 150W, requires very low RF input for automatic tuning, works on a SSB signal! Microprocessor controls switching of 64 input and 32 output capacitor combinations, plus 256 inductance combinations in a pi-network to tune an unknown antenna in just two seconds. 500 memories store previous tuning combinations to tune in milliseconds. Waterproof for mobile-marine applications. 10–15VDC @ 0.9A.12"w x 16"d x 3"h, 8 lbs.....**SGC 54-12 $489.95**

See p.p. 66-69 for more SGC information!

POLYPHASER

Low Inductance Copper Strap for Marine Applications

Copper strap is better than wire when used for a ground path because of its lower inductance. For example: 1.5" strap has a lower inductance than #2.0 stranded wire. Easy to cut, solder, etc.Ideal for grounding applications in marine installations! Available in 1½, 3 & 6 inch widths and 25, 50, 75 or 100 foot rolls

See p. 132 for more Polyphaser information!

ICOM Aircraft

▶**ICOM A-22 VHF Air Band Transceiver** Covers (COM) 118.-136.975, (NAV) 108-117.95MHz & 10 WX Channels. 50 memory channels. Programmed scan, memory scan and lock output. 5W output. Instant 121.5MHz NAV features: 200 ch., VOR nav with CDI, radial heading TO/FROM VOR, Auto Bearing Set. Semi-duplex–combines VOR/COM operation. Nicad battery & wall Charger. 2½"w x 7¾"h x 1½"d, 1.4 lbs **$549.95**

uniden

▶**MC-535 80 channel Marine VHF Radio** • All USA & International Channels • Instant CH 16 • 10 Weather Channels • Memory Scan • Dual Watch • LED Channel Display • 25 Watt/1 Watt Output • Weather Resistant Housing • Front Speaker • 13,8V DC @ 5A • 6⅛"w x 7⅜"d x 2⅜"h, 2.4 lbs..... **$139.95**

▶**MC-635** • Features similar to MC-535 but 90 Channels • LCD Channel Display • 6⅞ "w x 8"d x 2⅛"h **$149.95**

▶**MC-795 90 channel Marine VHF Radio**. Same as MC-635 but additional features: Weather Alert • Group Scan Feature • All Channel Scan • Weather Resistant Microphone **$169.95**

▶**HH-979 90 channel Handheld Marine VHF Radio** • All USA & International Channels • Instant Channel 16 • 5 watt and 1 watt output • Rotary Switch Channel Display • Weather Resistant Housing and Microphone • 13.8V DC or supplied Nicad battery pack • 2⅛"w x 1½"d x 7"h **$159.95**

▶**HH-980 90 channel Handheld Marine VHF Radio** Same features as HH-979 but cast aluminum case • watertight, • weather alert • 3 year warranty • **$229.95**

ICOM VHF Marine Radio

▶**IC-M10A Miniature Handheld Marine VHF Radio** Programmable for all USA & International Channels & Weather • Independent Channel 16 • 24 Memories • Full Function/Priority Scanner • Dual/Tri-watch • 3W output • Power-Saver • Large back-it LCD display • CALL key for hailing channels • "AA" Alkaline battery pack provides 2-14 hours for each set (Batteries not included). 2⅜"w x 1⅜"d x 4⅞"h, 12 oz **$199.95**

SHAKESPEARE Marine Antennas

▶**5202 (A)** Collinear-phased 5/8-wave elements. 6dB gain. 8 ft. long, handles 50W. DC grounded. Chrome-plated brass ferrule. Includes 20 ft. of coaxial cable with connector..... **$69.95**

▶**497 (B)** Collinear phase 5/8-wave elements. 6 db gain. 8 ft. long, handles 50W - **not** DC grounded. Smaller diameter absorbs flex. Includes 20 ft. coaxial cable/connector **$49.95**

▶**5206-C (C)** Economy model, end fed, 8' long with 6dB gain. Handles 50W, DC grounded. 15 ft. coax/connector..... **$39.95**

▶**420 (D)** Center-fed 1/2-wave coaxial sleeve model. 3dB gain, 5 ft. long. Polycarbonate lift-and-lay deck mount with leveling plate, hardware and 20 ft coax cable/connector **$59.95**

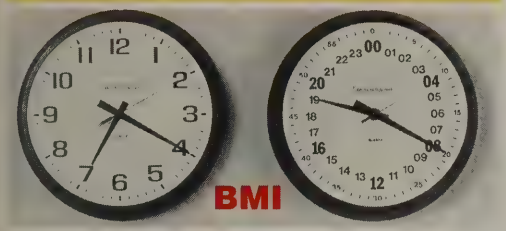
▶**495 (E)** Lift-and-lay polycarbonate deck mount **$14.95**

▶**366H (F)** Ratchet mount with handle for deck or bulkhead mounting. Has 9/32" hole for Loran cable. Standard 1"x14 male threads. Chrome plated zamac **$29.95**

maxon SYSTEMS Weather Monitor

▶**WX-70 Weather Monitor** Receives weather service broadcasts on seven N.O.A.A. stations: 162.550, 162.400, 162.425, 162.475, 162.450, 162.500, and 162.525MHz. Three different severe weather "Alert" warning modes. 110V with supplied AC adapter, uses a 9V battery for back-up **$39.95**

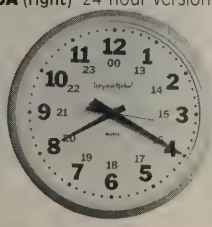
Clocks for the Ham Shack



BMI

▶**972A** (left) Battery operated 12-hour time quartz controlled clock with 12" dial and sweep second hand. Black textured case and clear glass crystal. Uses 1 (size AA) battery. 14" diameter. x 1¾" d. Looks good in shack! **$28.00**

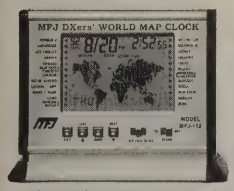
▶**973A** (right) 24-hour version **$49.95**



▶**972AD**
14" diameter
12/24 hour format
wall clock **$32.00**

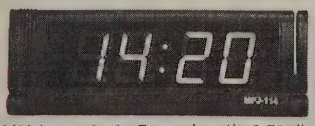
MFJ

▶**105B 24 Hour Quartz Wall Clock** Handsome black, 10" diameter face, sweep second hand. Uses single "A" battery, not included..... **$19.95**



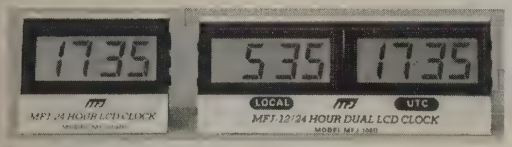
▶**112 Dx'ers World Map Clock and Calendar** Adds a touch of class to your hamshack! Features pushbutton selection to highlight and show month, day and 12 or 24 hour local time in 25 key cities around the world, Large 1/2" LCD readout, alarm function. One-second per day accuracy. Includes handy tilt bracket and long-life lithium battery. 5¼"w x 3¼"h x ⅝"d **$24.95**

BIG!
6½" x 13" with 2.3" Digits



▶**114 Giant LED 24/12-hour clock**. Four gigantic 2.3" digits, the 12 or 24-hour display format is visable 50 away or more! 110VAC with battery back-up. 6½"h x 13"w x 1"d **$39.95**

▶**116 24/12 Hour LED Clock** 24 or 12 hour, switchable. Huge red 5/8" LED digits. ID timer keeps you legal by alerting you to state your call every ten minutes. 110VAC with battery back-up. Compact 4½" w x 2"h x 4"d **$14.95**



▶**Small 24-hour Clocks** A Dual Clock with separate UTC and local time displays, and a Single Clock with 24 hour time only. Heavy brushed aluminum frame, 5/8" high LCD numerals, sloped face. Flashing seconds colon, battery included.

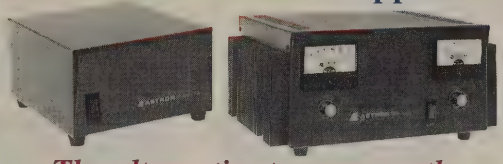
▶**107B Single Clock**, 2¼"w x 1"h x 2"d ..... **$ 9.95**

▶**108B Dual Clock**, 4¼"w x 1"h x 2"d **19.95**

NAVAL
Audio Booster Speaker

▶ **HTS-3** Improves the audio output from HT's, Walkman, etc. Has a 10dB audio amplifier and a quality 3-1/2" speaker. Requires 4 AA alkaline or nicad batteries, or 5-15VDC. Has built-in charger for nicads. Comes with 5 ft. audio cord with plug and stereo-monaural converter. 2¼"w x 4½"h x 2½"d, 1 lb **$29.95**

ASTRON CORPORATION Power Supplies



The alternative to more costly "matching" Power Supplies!

105–125V AC input, 13.8V DC output; internally adjustable from 11–15V • Electronic regulation with fold-back current limiting and crowbar overvoltage protection • Heavy-duty heat sink • 3-wire cord • One year Warranty • Made in U.S.A.

Separate voltage and ampere meters on RS-20M, 35M, 50M and 70M. Separate voltage and ampere meters, plus voltage adjustment (2–15V DC) on VS-20M, VS-35M and VS-50M. RM-35M, RM-50M and RM-60M are rack mount models.

Astron Model	Cont. Amps	ICS Amps	Size (in.) H W D	Shipping weight	
RS-7A	5	7	3¾ x 6½ x 9	9	**$59.95**
RS-10A	7½	10	4 x 7½ x 10¾	11	**69.95**
RS-12A	9	12	4½ x 8 x 10¾	13	**79.95**
RS-20A	16	20	5 x 9 x 10½	18	**99.95**
RS-35A	25	35	5 x 11 x 11	27	**149.95**
RS-35A/220V	Same as RS-35A but 220V input				**169.95**
RS-50A	37	50	6 x 13 ¾ x 12	46	**219.95**
RS-70A	57	70	6 x 13¾ x 12	48	**259.95**
With separate volt and amp meters					
RS-20M	16	20	5 x 9 x 10½	18	**119.95**
RS-35M	25	35	5 x 11 x 11	27	**169.95**
RS-50M	37	50	6 x 13¾ x 11	46	**239.95**
RS-70M	57	70	6 x 13¾x 12	48	**289.95**
Adjustable output; separate volt and amp meters					
VS-20ML	16	20	5 x 9 x 10½	20	**139.95**
VS-35M	25	35	5 x 11 x 11	29	**189.95**
VS-50M	37	50	6 x 13¾ x 11	46	**259.95**
Rack mount models; separate volt and amp meters					
RM-35M	25	35	5¼ x 19 x 12	38	**249.95**
RM-50M	37	50	5¼ x 19 x 12	50	**279.95**
RM-60M	50	55	7 x 19 x 12	60	**359.95**

▶**RS-4L** Power supply with built-in cigarette lighter receptacle on the front panel. 13V DC @ 4 Amps peak, 3 Amps continuous. 3½ "h x 6½"w x 4¾ "d, 6 lbs. **$49.95**

▶**RS-12S** Power supply with built-in speaker. Rated 13VDC @ 12A pk., 9A cont. 4½ "h x 8"w x 9"d, 13 lbs **$89.95**

Solid-state Power Inverters

General Purpose

▶**12/115** Converts 12V DC to 115VAC @ 60 Hz. Provides convenient AC house current in your Boat, Car, Truck, Camper, etc. Powers your ham rig, small household appliances, TV, tools, radios and lights up to 200W continuous, with peaks up to 240W, overload protected. Produces a square wave output which is not recommended for devices where high transients are not tolerable. 4½"h x 8"w x 9"d, 9 lbs. **$64.95**

Aircraft

▶**2412** Converts 22 to 32V DC input to 13.8V DC output @ 9 amps. Eliminates tapping into 28V battery for 12V **$59.95**

▶**2412-20** Same as above, but rated 16 amps output.. **$79.95**

TUNE BELT
Handheld Radio Belt

An integrated pouch and belt for less than the cost of most carrying cases. Strap it on – it's comfortable, convenient and protective. Sizes available to fit virtually any handheld from 5 to 7 inches long.

HH-1PS for up to 5" HT .. **$19.95**
HH-1PM for up to 6" HT . **$19.95**
HH-1PL for up to 7"HT..... **$19.95**
HH-2PM for up to 6" HT, with battery pocket **$21.95**
HH-2PL for up to 8" HT, with battery pocket **$21.95**

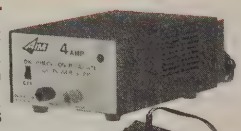
TRIPP LITE POWER SUPPLIES
Powerful Values For Ham Operators

105-125V AC INPUT, 13.8 VDC output; Tripp Lite's line of reliable, DC power supplies are perfect for all your Ham radio equipment. A wide selection, including most popular sizes, rugged construction and low prices. Tripp Lite, in business since 1922, provides another high-quality DC power alternative. 1 year warranty.

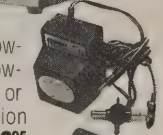
▶ Features include:
- Current-limiting foldback for complete over current protection
- Crowbar Overvoltage protection on 15 amp and larger models
- Solid state, integrated circuitry.
- Metal cases on all models
- High quality filtering for very low ripple/low noise
- Fully regulated output maintains 95% of no-load value
- Unbeatable product support, service and reliability
- Rack mount models available

TRIPP LITE MODEL#	CONT. AMPS	ICS AMPS	SIZE (HxWxD)	SHIP WT.	AES PRICE
PR-7	5	7	3¾ x 6½ x 7½	7	**$47.95**
PR-10	7.5	10	4½ x 6¾ x 7¾	10	**63.95**
PR-12	9	12	4½ x 6¾ x 7¾	11	**68.95**
PR-20	16	20	4½ x 6¾ x 7¾	15	**94.95**
PR-30	24	30	6¾ x 6¼ x 10¼	23	**129.95**
PR-40	32	40	6¾ x 10½ x 11½	27	**166.95**
PR-50	37	50	6¾ x 10½ x 11½	30	**199.95**
PR-60	48	60	6¾ x 10½ x 11½	33	**237.95**

AIM ELECTRONICS



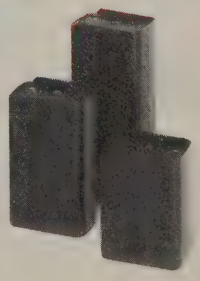
▶**38-384 Light Duty DC Power Supply** Input: 115V AC. Output: 13.8V DC regulated @ 4 amps. Front panel binding posts, LED "on" indicator, fuse protection. 7¾" x 4¾" x 3", 5½ lbs..... **$39.95**



▶**38-305 AC Adapter** Provides multiple low-voltage DC to operate various battery powered equipment requiring 3, 4.5, 6, 7.5, 9 or 12 volts DC @ 500ma. Multiple application plugs and 9V snaps fit most devices..... **$12.95**

▶**38-312 Regulated AC Adapter** Multi-voltage with multiple plugs and 9V snaps. Provides 1.5, 3, 4.5, 6, 7.5, 9 or 12VDC regulated @ 1200ma. to operate a wide range of battery operated devices.. **$24.95**

PERIPHEX
REPLACEMENT BATTERIES



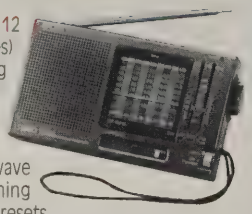
Spend less money for longer QSOs with power packs from Periphex!

They offer improved operating time when compared to the standard batteries that come with the radios.. Replacements for most **ALINCO**, **ICOM**, **KENWOOD** and **YAESU** handheld radios.These Super Packs feature short circuit protection and overcharge protection, and a 12 month warranty .... **See the Price List**

1996-97 ARRL Repeater Directory
Includes more than 20,000 listings for voice and digital repeaters and propagation beacons located in North, Central and South America. Lists more than 500 beacons from 14 to 24 GHz, band plans, tone chart, committees, clubs and more! **ARR271 $8.00**

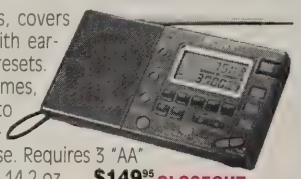
Shortwave Radios & Communication Receivers

SONY



▶**ICF-SW10** Compact and convenient, easy to use. 12 bands–covers AM broadcast, FM (stereo with headphones) and 9 shortwave bands. Easy analog tuning with tuning indicator for accuracy. 6"w x 3½"h x 1¼"d, 12 oz.... **$49.95**

▶**ICF-SW30** 12 bands. Covers AM, FM; stereo with headphones and 10 shortwave bands. Automatic Scan Tuning in1 KHz steps,15 memory presets. Clock has world and local time display, alarm and sleep timer functions. Requires three "AA" batteries or external 4.5V DC. 4⅜"h x 6¾"w x 1⁷⁄₁₆"d **$99.95**



▶**ICF-SW33 WORLD BAND RADIO** 13 bands, covers 0.5–26.1MHz AM and 87.6–108MHz FM stereo (with earphones). Scan tuning and 17 station memory presets. World time clock displays 38 city names and times, and has five time presets, sleep timer and auto shut-off. News/Music tone control, battery indicator. Supplied with telescopic antenna, carrying case. Requires 3 "AA" batteries or external 4.5V DC. 6⅝"w x 3¾"h x 1¼"d, 14.2 oz ..... **$149.95** CLOSEOUT

▶**ICF-SW55 WORLD BAND RECEIVER** Similar to ICF-7600, but improved. Factory preset name tuning provides access to most listened to broadcasts. Tuning methods: preset station, direct, scan or rotary dial. 125 memories. Requires 4-"AA" batteries or external 6V, AC adapter included.4¾"h x 7⅝"w x 1⁵⁄₁₆"d, 1½ lbs.....**$349.95**

Front view

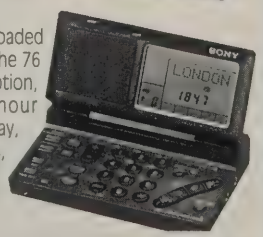
Rear view

▶ **ICF-SW1000T WORLD BAND RECEIVER** Features a full-featured Stereo Cassette Recorder and Player built in to the back .Provides 1 kHz step tuning LW/MW/SW/FM/SSB reception with synchronous detection via 10 key direct access and 32 memory presets. FM stereo reception via headphones. Built-in clock with alarm and sleep timer Timer Rec/Play feature allows convenient time shift recording. Stereo microphone and headphones, active antenna and carrying case supplied **$569.95**

▶**ICF-2010** Covers 150KHz-30MHz, 76-108MHz and 116-136MHz MHz; AM/FM/SSB/CW. Tunes manually or by keyboard entry, automatic scanning, memory scan or 32 memory presets. LCD display, switchable IF bandwidth, fine tune. Convenient 12 and 24-hour clock with alarm, programmable timer and sleep timer. Telescoping antenna and built-in ferrite bar antenna, Nice sounding 4" speaker. Record, earphone, external antenna and external DC power jacks. Operates from 3-"D" and 2-"AA" batteries, 12V DC, or 110V AC adapter. 6½"h x 11⅜"w x 2⅛"d, 3¾ lbs..... **$359.95**

▶**ICF-SW77** Same coverage (except for air band) and features as ICF-2010. Stores up to 100 stations (162 frequencies), allows stations to be selected by name and is capable of storing broadcast schedules. Programmable six-character Station Name Display, fine 50 Hz tuning resolution, FM stereo with headphones, ass and treble controls. 10⅞ "w x 6⅞"h x 1⅞ "d, 3¼ lb..... **$469.95**

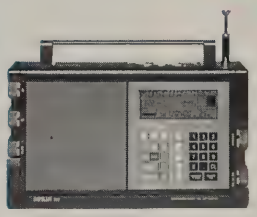
▶**ICF-SW7600G WORLD BAND RECEIVER** Covers 150kHz–30MHz and 76–108MHz FM (stereo with earphones). Synchronous AM detection, SSB and FM stereo (headphones). 10-key Direct Access Tuning™ and 20 station presets, LCD display. Tone control, external antenna and record jacks, clock/timer with sleep and standby functions, tilt bracket. Includes compact reel antenna, and carrying case. Requires 4 "AA" batteries. 4½"h x 7½"w x 1¼ "d, 1½ lbs..... **$199.95**



▶**ICF-SW100S** The size of a Pocket Calculator, but loaded with advanced features. Covers 150kHz to 30MHz and the 76 to 108 MHz FM band; stereo with earphones. SSB reception, 100 Hz tuning. steps, 50 memory presets, 24 hour clock/timer, world time computer, station names display, illuminated LCD display. AC adapter, stereo earphones, active antenna, soft carrying case, station directory and manual are included. 4⅜"h x 2⅞"w x ¹¹⁄₁₆"d..... **$349.95**

Call our Shortwave Headquarters at 1-800-558-0411

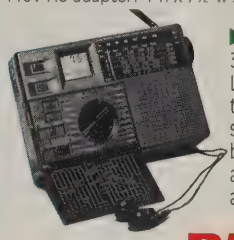
GRUNDIG



▶**SATELLIT 700** Covers 1.6-30MHz. AM, FM and LW bands, 512 memories. FM stereo with headphones or external speakers (not included). Direct frequency entry via backlit keypad, SSB & synchronous detectors, wide/narrow filters. Dual clocks and turn-on and sleep timers, 8 character memory bank labeling with 2,048 memories possible. LCD multi-function display, Built-in telescoping, ferrite antenna and ext. antenna connector, Operates from 110/220V AC, 4-"D" alkaline or nicads; built-in charger. 12"w x 7"h x 2¾"d, 4 lbs..**$499.95**

▶**YACHT BOY 400** Covers 1.6–30MHz, all SW bands + FM-stereo (with earphones), AM and long wave. Direct keypad frequency entry or scan tuning with 40 memories. SSB reception with fine tuning control, high-low tone switch. Tilt stand, telescoping antenna. Multi-function backlit LCD display shows dual zone 24 hour time, frequency, band and signal strength. Dual selectivity. Automatic turn-on and sleep timer. Includes stereo earphones, external reel-up antenna for SW, and carrying pouch. Requires 6 "AA" batteries or ext. 9V DC. 4½"h x 7¾"w x 1⅜"d, 1½lb..... **$199.95**

▶**YACHT BOY 305** Continuous SW coverage from 2.3 to 21.85MHz without gaps. Includes all existing SW bands plus FM-stereo, and Medium wave. 30 memory presets. Direct entry digital tuning, auto-scan and up or down slewing. Large cavity speaker enclosure for true rich sound. Requires 2-"C" batteries or external 110V AC adapter. 4"h x 7½"w x 1½"d, <1 lb **$139.95**



▶**TRAVELLER II** Covers AM/FM broadcast, the 19, 25, 31, 41, 49M SW bands and 5.8-15.6MHz. Multi-function LCD display, pushbutton and slide controls, tuning indicator. Clock with travel alarm.and World Time selection switch – select a city and read the time! Requires 3 "AA" batteries (not included). Telescoping and built-in ferrite antenna. 2" speaker, jacks for earphones and external. AC adapter (not included). 5½"w x 3½"h x 1¼"d **$89.95**

PANASONIC

▶**RF-B45 PORTABLE RECEIVER** Covers (LW) 144–288kHz, (MW) 520–1610KHz, (SW) 1.62–29.99MHz and (FM) 87.5–108MHz. Capable.of SSB reception. Six Way multi-tuning system: 18-station preset memory, frequency direct access, meter band access, up/down manual tuning, memory search with signal strength and auto tuning. LCD display, quartz clock with sleep timer, high/low tone selector, DX/Local selector. Deluxe carrying case, ext. antenna wire for shortwave reception, hand strap and earphone included. Requires 4 "AA" batteries. 4¾"h x 8½"w x 1"d, 1.6 lbs... **$169.95**

YAESU

▶**FRG-100B HIGH PERFORMANCE COMMUNICATIONS RECEIVER** Covers 50KHz to 30MHz with CW, SSB, AM and optional FM modes. 50 fully-tunable memory channels store frequency, mode and filter selection; two additional memories provide band edge information used in scanning function. Multi-function scanning (memory, band selectable group, priority) with carrier or time-delay resume enables convenient searching for new stations, or scanning within a known band. Twin 12 and 24 hour programmable clocks with on/off-timer and sleep-timer. Yaesu CAT system for PC control. 9.3"w x 3.6"h x 9.5"d, 6.6 lbs.. **$619.95**

Model VRC

New! **ALPHA DELTA**

Variable Response Console

A ducted port bass reflex speaker system that enhances the reception capabilities of ANY receiver.

More details on page 66!

Shortwave Radios & Communication Receivers

ICOM

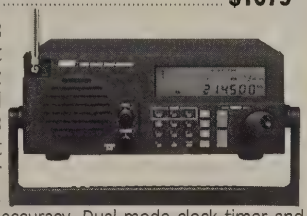
▶ICOM R-8500 SUPER WIDE BAND ALL MODE COMMUNICATIONS RECEIVER Covers 0.1 to 2000MHz (cellular Blocked) in 10 Hz tuning steps. kHz to 30MHz, all modes. TV & Stereo FM is optional with TV-R7100. Dual VFOs and direct keyboard entry, thirty-two tunable multi-function memories. RIT, notch, selectable AGC, noise blanker, tone, squelch, recording jack. Selectivity: 500 Hz, 2.3 kHz, 6 kHz, 15 kHz. Optional wireless remote controller and voice synthesized read-out board. 110/220V AC; Opt. kit for 12V DC .11⅞"w x 4⅞"h x 10⅞"d, 16½ lbs **$1999.95**

▶ICOM R-100-11 MOBILE DESK-TOP SCANNER Covers 100kHz–799MHz and 900-1856MHz. AM, FM wide and narrow modes Direct Keypad entry or selectable step knob tuning. 7 scanning. modes. 121 memories: 100 for frequency, mode, attenuator and preamplifier settings; 20 scan edge for ten pairs of ranges for programmed scan and one priority. Convenient 24-hour clock and timer. Three external antenna inputs and telescoping antenna., DC power cord and mobile mount included. Requires 13.8VDC @ 1A **$669.95**

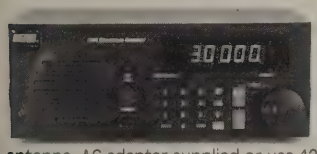
▶ICOM R-1-15 GENERAL COVERAGE POCKET SCANNING RECEIVER It's less than 2 inches wide! – easily fits in your shirt pocket. Scan, search, auto load. Covers 100kHz–800MHz and 900–1300MHz. AM, FM wide or narrow modes, 100 memory channels. Programmed, memory, selected mode memory, and auto memory write scanning. Rotary tuning knob or direct keyboard entry, easy-to-read edge-lit LCD display, convenient 24-hour clock with timer, adjustable LCD contrast, signal indicator, power-saver function. Built-in rechargable battery; or use 6 AA batteries, or 6 to 16V DC from external. source. Combination AC wall charger/DC adapter and belt clip are included. 1⅞"w x 4"h x 1½"d **$429.95**

DRAKE

▶DRAKE R-8A COMMUNICATIONS RECEIVER Covers 100kHz–30MHz + 33–55, and 108–174MHz with opt. VHF converter. Alphanumeric display, dual VFOs; 440 memories; multiple-function scanning; AM, FM , RTTY, CW, SSB modes; 4 voice bandwidth filters; switchable preamplifier and attenuator; dual noise blanker; IF shift and notch. S-meter; fluorescent display; dual time zone clock; dual timers, dual antenna connectors. Single button access to mode and bandwidth selection. RS-232 control capable. Opt. interface software for MS-DOS computers and external speaker. Universal power supply. 13½"w x 5¼"h x 13"d, 13 lbs **$1079.00**



▶DRAKE SW-8 COMMUNICATIONS RECEIVER Covers 100kHz-30MHz, 87-108MHz FM broadcast (stereo at headphone jack), and the 116 to 136MHz aircraft band. 70 scannable memories. Standard and synchronous detection AM, and selectable SSB reception on medium and shortwave bands. Direct frequency entry keypad, 0.5uV sensitivity, dual 6 or 4 kHz selectivity on AM, 2.3kHz selectivity on SSB. High contrast LCD readout provides 100Hz tuning accuracy. Dual-mode clock timer and AC adapter supplied or use opt. internal batteries. 11"w x 5¼"h x 11¾ "d, 10 lbs **$699.00**



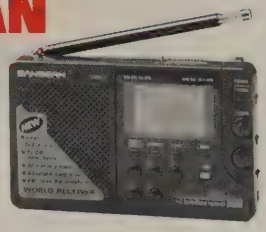
▶DRAKE SW-1 SHORTWAVE RECEIVER Covers 100kHz–30MHz. Synthesized microprocessor controlled tuning, 32 programmable memories. Easy tuning with Tuning Dial; Up/Down Buttons or Direct Frequency Entry via Keypad. Dual antenna inputs for coaxial feedline or wire antenna. AC adapter supplied or use 12V AC or DC. 10⅞ "w x 4⅜"h x 7⅝"d, 4.7 lbs... **$299.00**

KENWOOD

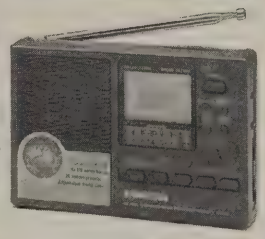
▶R-5000 COMMUNICATIONS RECEIVER Covers 100 KHz to 30MHz; 108 to 174MHz with optional VHF converter. SSB/CW/AM/FM modes. Dual VFO & keyboard frequency control, 100 multi-function memories. 6kHz and 2.5kHz SSB filters; accepts two more for CW, SSB or AM. Selectable AGC, variable attenuator, noise blanker, notch filter, IF shift. Dual 24-hour clocks and timer. Mute, record and headphone jacks. Optional VHF, external speaker, earphones, filters, voice synthesizer, computer control. 117V AC (13.8V DC kit is optional) **$1069.95**

Order Toll Free
Same Day Shipping
Use your Credit Card

SANGEAN



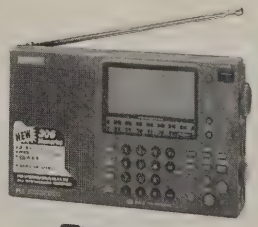
▶ATS-202 15 bands, AM, FM; stereo with headphones, 2.3 to 7.3 and 9.5 to 26.10MHz. MW 9k/10k switch. Manual and automatic station search, 20 station memory presets. Large backlit LCD display, clock with alarm and sleep timer features. Low battery indication. Requires two "AA" batteries or ext. 3V DC. 5¼"w x 3⅛"h x 1⅛ "d, 8.7 oz **$89.95**



▶ATS-303 13 bands, AM, FM; FMstereo with headphones, 2.3 to 7.3 and 9.5 to 26.10MHz. MW 9k/10k switch. Selectable continuous tuning across frequency range and/or SW band. Time and frequency display, Auto or manual station search, 20 station memory presets. Large LCD display, tuning LED. Clock with alarm by radio or buzzer, adjustable sleep timer. Low battery icon. Requires 4 "AA" batteries or external 6V DC. 6½"w x 4⅜"h x 1⅜ "d,15 oz **$79.95**

▶ATS-818CS World Band Receiver with Programmable Cassette Recorder (left) 16 bands, continuous coverage 50kHz–30MHz. AM/SSB/CW/FM; stereo via headphones, 45 memory presets. Tuning methods: Direct input, auto or manual scan, memory recall, rotary dial. AM wide/narrow filter, tone/RF gain controls, signal strength/battery indicator. Programmable cassette recorder, play/record LED indicator, auto-stop feature. Clock with dual time display, alarm/sleep timer. Uses 7 AA batteries. Includes AC adapter and external antenna adapter. 11½"w x 7¾"h x 2¾"d, 5 lbs **$229.95**

▶ATS-818 World Band Receiver Has all of the features of the ATS-818CS above, but does not have the built-in cassette recorder feature **$179.95**



▶ATS-909 FM-Stereo/MW/LW/SW PLL Synthesized Receiver 5 tuning methods: Direct Frequency, Autoscan, Manual, Memory recall and Rotary, 307 memories. Stereo via earphones, SSB reception. MW 9k/10k switch. AM wide/narrow filter and FM mono/stereo selector. Dual time system with 3 timers and adjustable sleep timer; cLock displays 42 world city times. RF gain/tone controls. Lock switch, recorder output jacks, battery and signal strength indicator .Uses 4 "AA" batteries or 6V DC; AC adapter included. 8½"w x 5⅜"h x 1⅜ "d, 1.9 lbs **$299.95**

▶DT-200V Broadcast & TV Band Receiver Fits in shirt pocket or clips to belt. Covers AM/FM (FM stereo via headphone), plus the audio portion of TV channels 2–13. LCD display, up/down tuning buttons, auto-scan, 19 memories, automatic shut-off, built-in speaker. Belt clip, stereo earphones included. Uses 2 AA batteries. 4⅜" x 2⅝" x ¾", 5 oz **$69.95**

MFJ

MFJ-8100 SHORTWAVE REGENERATIVE RECEIVER

RF stage for great sensitivity and it goes into regeneration smoothly without pops or dead spots. Stations world wide come in loud and clear with just a 10 ft. wire. Listen to international SW broadcasts, hams on SSB and CW, RTTY, packet & more!. Covers all or part of 75/80/49/40/30/20/25/22/19/17/16/15/13M bands. Smooth Vernier drive reduction tuning. Rugged aluminum cabinet. Uses a 9V battery or ext. DC. Two earphone jacks for Walkman-type earphones or plug-in speakers. 7"w x 2½"h x 6"d, 1 lb.

▶MFJ-8100K (kit) $59.95 • ▶MFJ-8100W (wired) $72.95

MFJ-8400 2 METER MONITOR RECEIVER

Ideal second receiver, perfect for monitoring packet. Low noise, high-gain RF preamp gives 0.2 mV sensitivity. Dual-conversion superhet with sharp ceramic filters and crystal controlled 2nd oscillator. Antenna input and 19" whip. Vernier reduction drive, tune, squelch and volume controls, built-in speaker. MFJ's exclusive Tail-Free™ squelch eliminates squelch tails. Uses 9V battery, external 9-12V DC or 110V AC with opt. MFJ 1312B. 5"w x 2½"h x 4"d, 1 lb

▶MFJ-8400K (kit) $72.95 • ▶MFJ-8400W (wired) $89.95

Shortwave Accessories...

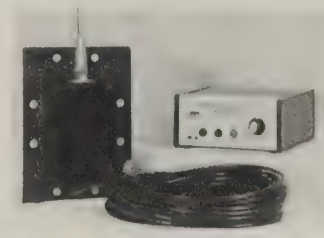
▶MFJ-784B Super DSP Filter Digital Signal Processing automatically eliminates hetrodynes, reduces noise and interference on SSB/CW/AM, all digital modes, VHF, EME & satellite. Tunable FIR linear phase filters minimize ringing, prevent data errors, and have up to 60dB attenuation, just 75Hz away. Tunable Spotting Tone™ automatically tunes the CW filter even in the narrowest bandwidth. MFJ's exclusive Adaptive Tuning™ center frequency tuning automatically becomes finer as you narrow the bandwidth making extremely narrow filters easy-to-use. Improved automatic notch with variable aggressiveness. 2W audio amplifier/AGC. 12V DC or 110VAC with MFJ-1315. 2½"h x 9"w x 6"d **$229.95**

▶MFJ-752C SSB/CW Audio Filter (left) Pull out stations from noise and interference. Peak, notch, low or high pass signals to eliminate hetrodynes and interference. Filters tune 300–3000Hz, bandwidth varies from 40 Hz to almost flat, notches to 70dB. Noise limiter. Switchable Inputs for 2 radios. 9-18VDC or 110VAC with MFJ-1312. 10"w x 2"h x 6"d **$89.95**

▶MFJ-1045C Transceiver Preselector ..... **CLOSEOUT $59.95**

▶MFJ-956 LW/MW/SW Preselector/Tuner (right) Improves the reception of signals from 150kHz–30MHz. Tuning boosts signals while rejecting images, intermodulation, and other phantom signals. SO-239 connectors. 2"h x 3"w x 4"d **$39.95**

▶MFJ-959B Antenna Tuner & Preamplifier Covers 1.6 to 30MHz providing the proper impedance match between antenna and receiver for maximum signal and best reception. Built-in 20dB preamplifier with gain control and 20dB Attenuator. Front panel switches select from two antenna inputs and outputs for two receivers. 9-18VDC or 110VAC with MFJ-1312 AC adapter. 5"w x 2"h x 6"d **$99.95**



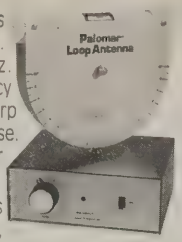
▶MFJ-1024 Outdoor Active Antenna Covers 50kHz–30MHz. Amplifier module with 54 inch whip mounts outside. Connection is made by 50 ft. of RG-58/U coax (supplied) to an control unit inside which contains a gain control and 20dB attenuator to prevent receiver overload from the amplified signals. Switches select between two receivers, and auxiliary antenna. LED "on" indicator. RCA phono auxiliary input and output jacks. 12VDC or 110VAC with MFJ-1312B adapter. Control: 6"w x 2"h x 5"d, Module: 3"h x 4"w x 4"d **$119.95**

▶MFJ-1020B Indoor Active Antenna Covers 300kHz to 30MHz in five bands. Built-in 21 inch telescoping antenna provides maximum signal strength. Also functions as a preselector when using an external antenna. Minimizes intermodulation, improves selectivity and reduces noise. Tune, Band, Gain, On-Off/Bypass controls. Uses 9V battery (not included), 9-18VDC or 110VAC with MFJ-1312 AC adapter. 5"w x 2"h x 6"d **$79.95**

▶MFJ-462B Multi-Reader Copy RTTY, ASCII, CW and AMTOR signals from Amateur, Commercial, Military, Weather, Aero, Marine, Plugs into SW receiver phone jack, decodes and displays messages on a two-line, 16 character LCD display. 12VDC. 5½"w x 2¼"h x 5½"d **$159.95**

Connect the MFJ-462B into an EPSON compatible computer and print CW, RTTY, AMTOR and ASCII messages Use the **▶MFJ-5413** standard RS-232 cable **$9.95**

▶PALOMAR LA-1 Loop Antenna Picks up less noise than other antennas. Frequency Range: VLF to 15MHz. Six plug-in loops for various frequency ranges rotate and tilt to produce sharp nulls that cancel interference and noise. Built-in 20dB preamp compensates for small size. 2¼"h x 7¼"w h x 6"d ..**$99.95**



▶Plug-in Loops for LA-1 Ranges include 40–150kHz, 150–550KHz, 550–1600kHz, 1.6–5MHz or 5–15MHz ..... each **$89.95**

PALOMAR VLF Converters Receives and converts the 10 to 500kHz Very Low Frequency) band to 80 meters. Two models tune this low range on a general coverage receiver or ham band transceiver. Requires 9V battery. 2"h x 4¼"w" x 5"d.

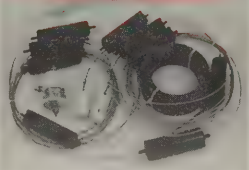
▶VLF-A for use with a Ham Band transceiver **$89.95**
▶VLF-S for use with a General Coverage receiver **$89.95**

▶AMECO TPA Tunable Preamplifier/Active Antenna Covers 2–30 MHz in 5 bands. Use with an outside antenna as a tunable preamplifier with >20dB gain and low noise figure, or as an effective indoor active antenna using the built-in 30" collapsible whip. Requires 9 VDC or 110VAC with opt. PT-9T AC adapter. 2½ "h x 8"w x 6½"d **$69.95**

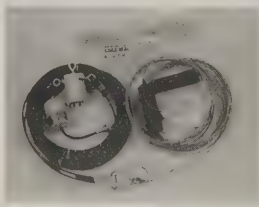
▶AOR SDU5000 Spectrum Display Unit See stations above and below your receiving frequency.. watch for stations to pop-up over a 10MHz window, then zero in. It's a menu-driven system for simple opertion, the display is a 3.1" HQM simple matrix color LCD and the resolution is 5 or 30KHz. Designed as a companion to the AOR AR-3000A but works with other receivers with a 10.7MHz output **$899.95**

Popular Shortwave Antennas

ANTENNA SUPERMARKET



▶EAVESDROPPER™ Shortwave Antenna An 8-trap configuration provides reception of all shortwave bands, 11 to 90M. Includes Zap-Trapper® gas-tube lightning arrestor and 50 ft. of support rope. Overall length is 42 ft. and comes fully assembled. When ordering, specify with **100 ft. of 72Ω twin lead**, or weatherproofed **coaxial center connector** (coax not included). **$79.95**



▶EAVESDROPPER™ SWL SLOPER Shortwave Antenna End-fed, coil loaded, with underslung parallel element. Mounts in a sloping configuration. Covers AM broadcast, 120 and 90M, and all shortwave bands 7 to 13M. Overall 67 ft., comes fully assembled. Includes Zap-Trapper® lightning arrestor, coaxial connector, and 50 ft. of nylon rope **$79.95**

ALPHA DELTA COMMUNICATIONS, INC.

▶ SWL Sloper Antenna Covers 13, 16, 18, 19, 21, 25, 31, 41, 49, 60, 90, and 120 meter shortwave bands, plus the AM broadcast band. Sloper design provides outstanding reception of low-angle DX signals. Multi-band transmit capability with an appropriate antenna tuner, handles up to 2000 watts. Overall length is 60 ft, requires 50Ω coaxial cable ..... **DX-SWL $79.95**

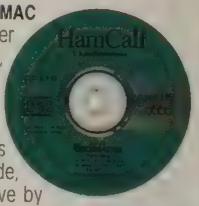
1997 Passport to World Band Radio Shortwave listening guide containing data on every international broadcast station; names, locations, frequencies, operating times, coverage, target area, transmit power, and more. Hourly guide for English language programs, worldwide. Test reports, buyer's guide..... **ARR 249 $19.95**

▶BMI Nitelogger II Automatic Tape Recorder Activator Takes audio from any 8Ω source and provides 600Ω match and voice activated relay operation for a recorder. Three connections: the radio's external speaker jack, the recorder's remote and mic input jacks. Manual/auto switch for operating the recorder without disconnecting cables. This device can make a simple crossband repeater by connecting up two HT's. Built-in monitor speaker with volume, drop-out sensitivity & delay controls, record light. AC adapter supplied **$69.95**

▶BMI RC-1A Impedance Matching Patch Cord Provides a proper impedance match between an 8Ω source and a 600Ω tape recorder input. Uses capacitive isolation of the audio signal. Provides proper loading for the source device, an attenuator prevents recorder input overload. 3.5mm plugs ... **$19.95**

CD Software

BUCKMASTER HamCall CD-ROM for MAC and IBM PC Compatibles Look up over 1,290,000 listings by Call, Name, Address, City, Zip, Call sign suffix and country. Plus, license issue date, expiration, birth date, previous call, area code, hours past GMT, previous class, and new high-precision latitude, longitude, and grid square. Retrieve by call, name and zip on MacIntosh **$50.00**



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Windows 95 Compatible • Extensive international listings Print standard 1-up labels • Hundreds of programs & data files of ham related subjects • Over 40 MB or MAC software Over 1000 text files • Interfaces with many popular logging programs • Photos now added to license information

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- Windows Visual Basic and C++ Compatible .DLL Library
- Source code and executables for SunOS and AIX UNIX

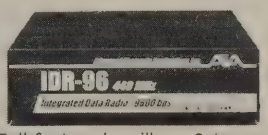
PACKET

AEA Advanced Electronic Applications, Inc

AEA PK-12 Low cost, 1200 bps, VHF/UHF, packet TNC. (right) Ideal for those looking to get started in Digital Communications. *Features:* 1200 bps, VHF Packet ready; Gateway as a Node; PC PakRatt Lite™ Control software included; APRS™ software included; APRS Adapter Cable available; AEA Host mode; Advanced command set; Identify TCP/IP, TheNet & NetRom; GPS firmware & commands; Stand alone tracking; External TX adjustment. Perfect for base station and full of features for mobile. Energy efficient – 12V DC, or can operate on a 9V battery. 5¾"w x 5¼"d x 1⅛"h, 12 oz...**$109.95**

AEA PK-96, 9600/1200 bps packet TNC (left) A plug-in and go TNC loaded with features. *Features:* 9600/1220 bps Packet Ready; GPS firmware standard; Remotely programmable GPS commands; Stand Alone Tracking; Hardware HDLC for accuracy; True DCD to hear weak signals; Gateway as a Node; TheNet X-1J Node firmware option available; Full MailDrop facility; AEA's PC PackRatt Lite™ terminal control software included; APRS™ software included; AEA Host mode; Advanced command set; Identify TCP/IP, TheNet & NetRom; Separate external TX for 9600/1200 bps adjustments; External reset ; Windows™ and Macintosh™ program available. Requires 12V DC 6¾"w x 7½"d x 1⅞"h, 1¼ lbs. Available with 32K RAM (18K Mailbox) @ **$199.95** or 128K RAM (100K) @ **$259.95**

AEA DSP-232, Dual Switchable Port DSP Multi-mode Data Controller Designed around a high-speed Digital Signal Processor (DSP) to provide the ultimate in signal filtering, modem performance, and flexibility. *Features:* 9600 & 1200 bps packet; All standard HF & VHF modes; Mailbox expandable to 242K; Full MailDrop facility for Packet, PACTOR, and AMTOR; Two switchable radio ports with AFSK and 9600 adjustments; GPS firmware compatible with GPS, Loran, ARNAV, and ULTIMETER II weather stations; Gateway firmware works as a node for faster throughput; SAIM™ signal I.D.; Hardware Memory ARQ; Identify TCP/IP, The Net & NetROM; More! 12V DC. 9¼"w x 7⅞"d x 2⅜"h, 3 lbs.....**$429.95**



AEA IDR-96 Integrated 440MHz, 9600 bps Data Radio Incorporates PK-96 TNC technology and a 5W crystal controlled radio operating on 441.05MHz. No tuning! Full featured mailbox; Gateway node operation; advanced Global Positioning System; Identification of TCP/IP, TheNet; and NetROM stations; and more! PC PakRatt Lite™ & APRS™ software. 12VDC ...**$449.95**

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Amateur Paging
Multi-Mode Controllers

See Price List & Display Pages 36 & 37

▶**KANTRONICS G-TOR™ BOOK – The New Mode** A valuable collection of previously-published articles, a detailed description of the G-TOR protocol and informational numerous charts. Written primary by Kantronics staff Phil Anderson, WØXI, Karl Medcalf, WK5M & others. 90 pages, soft cover..... **$19.95**

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▶**MFJ-1270C TAPR TNC-2 Clone** Interfaces computer with RS-232 serial port and terminal program for VHF/UHF, OSCAR and other non-FM packet. Switchable HF/VHF modems. EasyMail™ personal mailbox, WeFAX. KISS interface for TCP/IP, 256K EPROM & 32K RAM. TTL serial port, battery back-up. AX.25/Level 2-V2 software, hdwe HDLC–full duplex, true data carrier detect for HF, multiple connects. interface cable, serial port connector & AC adapter.12 VDC. 9½" x 7½" x 1½" .. **$109.95**

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***See Price list for pre-wired 8621-to-TNC cables. Crystals for other packet channels are available thru MFJ at 1-800-647-1800.**

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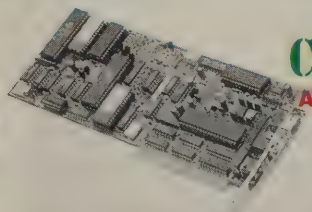

AEA PCB-88 HF/VHF Packet Controller Computer Board

The PCB-88 is a full-featured, 1200 bbs, IBM compatible, HF/VHF packet controller. Plug it into any 8 or 16-bit expansion slot in your XT, AT or compatible PC.

It comes with standard AEA features, plus–true DCD, modem disconnect header for easy hook-up of other modems, AEA's extensive Host mode, KISS command, 18K Mailbox, full MailDrop facilities, node features, and selective connecting and digipeating. PC PakRatt-88 control software is included. The PCB-88 can get DC power direct from the computer's bus lines or, the included AC-1 12VDC adapter can be used, so the PCB-88's MailDrop can receive message even when the computer is turned off ..... **Was $179.00** – While they Last! **$99.95**

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Kantronics

Introduction to Digital Radio

What is digital radio? There are many terms to describe what we refer to as "digital radio" including "packet radio" and "data by radio". Ultimately, all of these terms refer to the process of transporting data between computers and transceivers (radios which transmit and receive). Most Kantronics products, such as the KPC-3, KPC-9612-Plus, and KAM Plus, provide data transportation and are referred to as terminal node controllers (TNCs). In function, TNCs are similar to phone modems which connect to computers and telephones for transmission of computer data over telephone lines. However, TNCs transmit data over radio signals rather than telephone wire and are thus often referred to as radio modems. Once the data is transmitted, other digitally operated stations can receive it, and users can display the information on their computer screens.

What can I do with digital radio? All Kantronics TNCs offer a variety of applications for both beginners and veteran hobbyists. Our most basic unit, the KPC-3, operates 1200 baud packet for VHF/UHF. With the KPC-3 connected to a transceiver and computer, you can send and receive messages, carry on direct computer-to-computer conversations, receive and re-transmit global positioning system (GPS) data, and much, much more. These basic features have also been incorporated into the KPC-9612-Plus and KAM Plus which offer a variety of additional features to satisfy even the most highly skilled and discriminating amateurs. For example, G-TOR, the newest and fast mode for HF digital communications has been added to the KAM Plus, and paging transmission and reception have been added to the KPC-9612-Plus.

What equipment will I need to get started? To send data by radio, you will need a transceiver, a computer, and a TNC. For communication between your computer and TNC, some type of terminal software is required. For your convenience, all Kantronics TNCs include Pacterm on 3.5 inch diskette, a basic terminal program. Trial copies of complimentary third-party software (KaGold and KaWin) are also included.

KPC-3 *The #1 choice for 1200 baud packet*

The KPC-3 is a full-featured 1200 baud packet modem (TNC) used for sending and receiving data by radio. The KPC-3 connects quickly and easily to your computer's serial port and a VHF/UHF FM radio. Once connected, it is ready to send and receive mail, receive and re-transmit GPS data from a GPS unit, monitor and make contacts, and more! The panel design and included connection kit make cabling easy, and our new-user command set and on-line helps provide maximum performance for beginners as well as veteran packeteers.

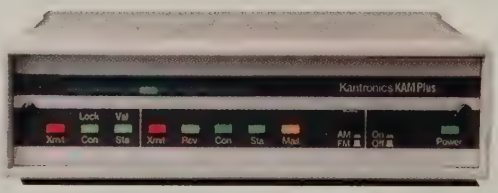
***KPC-3* – $129.95**

KPC-3 Features

- 9-volt battery operation, so it is perfect for portable applications
- APRS and NMEA-0183 GPS compatibility
- 32K RAM (20K of mailbox space) or 128K RAM (100K of mailbox space)
- K-Net™ networking option (NET/ROM™, TheNET compatible)

KAM Plus *The ultimate multi-mode TNC*

The KAM Plus is a dual port, HF/VHF multi-mode terminal node controller used for sending and receiving data by radio. Simply connect it to your computer's serial port and to an HF transceiver, a VHF transceiver, or both. Then, the KAM Plus is ready to send and receive mail, monitor and make long distance contacts, track GPS activity, and much more. The panel design, cable kits, and connectors make connection quick and easy, and our new-user command set and on-line helps enable even beginners to enjoy this high performance TNC. The KAM Plus supports G-TOR, Pactor, AMTOR (ARQ, FEC, SELFEC, CCIR 476 and 625), Packet, CW, RTTY, ASCII, and NAVTEX/AMTEX.



***KAM Plus* – $339.95**

KAM Plus Features

- Separate HF and VHF/UHF radio ports, capable of simultaneous operation
- PBBS with more than 100K of mailbox space and remote access
- These popular modes: G-TOR®, Pactor, AMTOR, Packet, CW, RTTY, ASCII, NAVTEX/AMTEX
- APRS and NMEA-0183 GPS compatibility

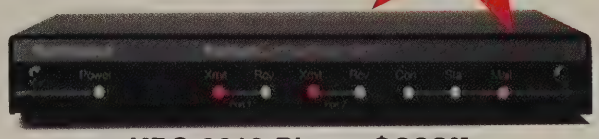
Introduction to High Speed Packet

High speed packet is typically defined as the transmission of packet data at speeds of 9600 baud or greater. While interest within the amateur community seems directed at higher speeds such as 9600 and 19,200, dramatic changes in packet activity are unlikely since popular 1200 baud units such as the KPC-3 have permeated the market. This situation puts new purchasers in an awkward position. Which unit should they purchase, 1200 or 9600? Kantronics has solved this dilemma by developing the KPC-9612-Plus, featuring two simultaneously-operating radio ports, one at 1200 baud and one at 9600 baud (configurable for 4800 or 19,200 also).

KPC-9612-Plus

9600 and 1200 baud at the same time

NEW!



KPC-9612-Plus – $269.95

The KPC-9612-Plus is an updated version of the first 9600/1200 dual-port introduced to amateur radio by Kantronics. The new HC11-based 9612-Plus retains the features of the 9612 and adds additional capabilities: two A/D signal inputs for data acquisition, a 4,800 to 38,400 baud high speed modem (standard in port 2), digital potentiometers for adjusting data drive and receive equalization levels via the keyboard, and disconnect header for adding a third modem (baby pcb within the case). The KPC-9612-Plus is capable of operating high-speed packet and 1200 baud packet at the same time. With this flexibility, it's the perfect packet choice. Off the-shelf, the KPC-9612-Plus is ready for 9600 and 1200 activity and can be cabled to either one or two radios. Regardless of the speed you choose, the KPC-9612-Plus is equipped with all the features typical of Kantronics' industry-leading TNCs: packet mailbox, GPS compatibility (NMEA-0183 standard interface), APRS compatible, KA-Node networking (and optional K-Net networking firmware – NET/ROM compatible.) In addition, the unit supports amateur paging, the transmission and monitoring of 512, 1200, and 2400 baud Radiopaging Code No. 1 (POCSAG) messages. Nine keyboard paging commands have been added to the firmware in addition to a paging server. Via the server, amateurs may connect to the KPC-9612-Plus and send a page, view a log of pages sent, or list a directory of call-sign-page IDs.

KPC-9612-Plus Features

- Separate radio ports capable of simultaneous operation
- Disconnect header, allowing the addition of a third radio modem
- 9600 baud port, also configurable to 4800; 19,200; or 38,400 baud
- port 1 and 2 digital pots: radio drive levels set via your keyboard
- two A/D data acquisition ports and two TTL output control lines
- APRS and NMEA-0183 GPS compatible
- Runs Newuser, Terminal Host, GPS, BBS, paging, KISS and ext-KISS modes
- 32K RAM (20K mailbox) or 128K RAM (100K mailbox)

More on Amateur Digital Paging: The digital paging transmission and reception formats adhere to the POCSAG commercial standard. Hence pagers sold by resellers are readily available for conversion to amateur use. We offer pager crystals, a recrystalling service, and refurbished Bravo Plus™ pagers recrystalled for 2 meters and 70 cm. For an up-to-date list of crystals (frequencies) view our internet webpage, http://www.kantronics.com/. We also offer the *Pager Handbook for the Radio Amateur*, by WØXI. This "tell-it-all" handbook includes a description of the POCSAG standard and instructions for do-it-yourself recrystalling of pagers for amateur use.

QuickCheck *A quick reference guide to Kantronics products*

	High speed	Dual port	Packet	HF and VHF	Paging Transmit & Monitor	GPS capable	APRS compatible	K-Net networking Option	Can run on 9-V battery
KPC-3			✔			✔	✔	✔	✔
KPC-9612-Plus	✔	✔	✔		✔	✔	✔	✔	✔
KAM Plus		✔	✔	✔		✔	✔		

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All-Mode DSP Noise Filters

"The most powerful Noise and QRM filter in Amateur Radio"

DSP-599zx – the latest generation DSP filter, incorporating a High-speed CPU running at 36.8 Million Instructions per second. A new backlit, 2 x 16 alphanumeric display is used for Visible Memories™ feature to eliminate guessing about which filter settings are selected, and provides instant recall of all filters.

The filter comes with preset filters for data and includes 5 for RTTY, SITOR, AMTOR, PACTOR, G-TOR, HF Packet, Weather Fax, Slow Scan TV, Clover and 3 User Definable filters. Timewave filters process in Real Time, a feature that reduces listener stress during noisy band conditions. And, you can leave the random noise reduction feature ON when tuning in a station because the time delay is not noticeable like other filters.

A special RS-232 port allows the filter to be used as a RTTY Modem with software and a computer. In this mode, the filter has a tuning bar and a special Double Notch Filter that gives the RTTY user a 5-7 dB Signal to Noise Ratio improvement over a regular DSP filter, resulting in heterodynes that disappear faster and weak signals that "pop up" from the noise.

The Continuous Tuning Filter can open up to 5kHz for Shortwave AM broadcast and VHF/UHF FM listening. In Voice Mode, the Heterodyne Eliminator has a user-selectable Automatic Notch, a Manual Dual Notch and a Manual Single Notch. The Low Pass Filter covers 200 to 1000 Hz and the High Pass Filter from 1000 to 5000 Hz. Each individual filter is tunable and does not have any interaction with the other

In CW mode, the filter has Variable Center Frequencies to match any radio and is the only one to incorporate CW Pitch Shift Conversion. This allows the operator to take a high sidetone and convert it to any tone between 200 and 800Hz. Many older transmitters and transceivers have sidetones which can not be changed or reprogrammed. Their high sidetones can be converted to a low tone and still let the operator zero beat another signal without changing the BFO or other controls.

A Test Equipment Mode features a Two-tone Generator for SSB; 20Hz to 10kHz Audio Sine Generator; Audio Millivolt Meter and a CTCSS Encoder & Decoder for all PL Tones from 67.0 to 254.1 Hz. It's accurate enough for maintaining radio equipment and for use at repeater sites to check tones, etc. In addition, a CTCSS squelch feature allows keying a tape recorder or other device.

Timewave is the only manufacturer of Amateur Radio DSP noise filters to use the more expensive 16 bit A/D D/A converter with a high audio bandwidth. This makes the filter quieter than the competition and gives much superior audio reproduction. Also incorporated is the latest surface mount technology using a four layer board to improve quietness and reliability. Meets both the FCC Class-B and strict European Common Market standards. 12V DC @ 1A 7½ "w x 8"d x 1¾"h, 2.2 lbs **$369.95**

- **Visible Memory™ • Calibrated Filters™**
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- **Wide filtering for Shortwave & VHF/UHF FM**
- **Narrow for CW/SSB • Demodulates RTTY**
- **Up 20dB White Noise Reduction**
- **Front Panel Programming**
- **Two selectable radio inputs**
- **Programmable Input sensitivity & Line output**
- **Selectable Memory Mode on power up**
- **Real Time Listening • AGC**
- **Variable Noise Aggressiveness**
- **Dual Audio Channels • Headphone level**
- **CW Marker Tone for zero beat**
- **Backlit LCD Display**
- **Extra code space on 2 Mb EEPROM**
- **Field Upgradable Software**
- **Test Equipment Mode**
- **Audio Voltmeter, Generator & CTCSS**

▶DSP-59 Plus Version 3.0 Perfect for the HAM and SWL Hobbyist. Features 225 combinations of High and Lowpass Filters for Voice and all Special Modes. Over 300 CW and DATA filters (25 to 600Hz), allow selection of almost any filter needed for a specific application, including RTTY, SSTV, AMTOR, G-TOR®, PACTOR, Packet, Satellite, EME, SSB, CW, Weather Fax and AM

A remodulator for RTTY provided perfect copy of signals below the noise level. Voice Filters from 200 Hz (highpass). 13 CW center frequencies from 400 to 1.0 kHz. AGC, HP/LP/BP, Heterodyne Elimination and Random Noise Reduction. Kills heterodynes with Notch up to 50dB. Dramatic Random Noise Reduction from static, lightning crashes, white noise, line noise, Marker for spotting the narrow CW filter, audio generator and self-test mode. Built-in relay bypasses audio directly to station speaker with pushbutton or when power is turned off. Meets both the FCC Class-B and strict European Common Market standards.12VDC @ 1A. 7½"w x 8"d x 1¾"h, 2.2 lbs **$259.95**

▶DSP-9 Plus Version 3.0 SSB/CW/Data Filter Featuring pushbutton selectable Bandpass, Automatic Notch and Random Noise Filters for SSB/CW and DATA.

Field programmable SSB Filter Bandwidths: 1.6, 2.0, 2.4 kHz or 1.8, 2.4 and 3.1kHz. CW Filter Bandwidths: 100, 200, and 500Hz with center frequencies of 400, 500, 600, 800Hz; any two are Field Programmable.

Optimum DATA filter for HF Packet, GTOR®, AMTOR & RTTY. Incorporates a RTTY Remodulator for perfect copy of signals below the noise level. ALL DATA modes have user Programmable Selectable Center Frequencies; default – USA standard 2210Hz.

AGC for wider dynamic range. The DSP-9 also acts as an automatic CW Boost and Peaking Enhancer to improve reception. Auxiliary audio output jack for DATA; PTT input for break-in. CW sidetone, bypass and muting. Relay bypasses audio directly to speaker with pushbutton or when power is off. Self-test mode. Meets both the FCC Class-B and European Common Market standards.12VDC @ 1A. 6"w x 6"d x 1¾"h, 2.2 lbs **$199.95**

▶DSP-9 Version 3.0 CW/SSB Filter Push button selectable Bandpass, Automatic Notch and Random Noise filters for SSB/CW and DATA. SSB filter bandwidths: 1.6, 2.0, 2.4kHz. or 1.8, 2.4, 3.1 kHz, field programmable. CW filter bandwidths: 100, 200 and 500Hz with center frequencies of 600/750Hz or 400/500, field programmable. AGC on SSB for wide dynamic range. Reduces white noise, static, QRM – Dramatically! Excellent for VHF and weak signal Satellite work. Self-test mode. Meets both the FCC Class-B and European Common Market standards. 12VDC @ 1A. 6"w x 6"d x 1¾"h, 2 lbs **$159.95**

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All-Mode DSP Noise Filter for YAESU

▶DSP-59Y Plug in Module Fits in the phone patch slot of a **YAESU® SP-5** or **SP-6** external speaker. It uses the existing A/B switch and phone jack and retains use of the analog filters.

The module gives the YAESU FT-1000, FT-1000D, FT-990, FT-890, FT-900 and FRG-100 the latest Noise Reduction and DSP filtering technology. It can also be used with radios and transceivers made by other manufacturers, too!

The DSP-59Y has many of the features of the DSP-599zx described to the left. It's Field Upgradable and has an LCD display for Visible Memories™ and Calibrated Filters™. The CW Filters range from 10 to 600 Hz with CW Pitch Shift and the Voice Filter ranges up to 5 kHz wide for SSB, FM and AM.

It features the new Hyper-Speed DSP Processor operating at 36.8 MIPS (the fastest) with 80KB of RAM on the CPU. A/B switch for Selectable Input Channels and the Analog Filters that are already part of the YAESU® speaker. This gives the operator maximum flexibility of both sets of filters and they can be used at the same time.

It also has Automatic & Manual Notch Filters.The manual notch can be used in the CW mode. Variable Noise Aggressiveness. Meets both the FCC Class-B and European Common Market standards. 12VDC @ 1A. 12"d x 3¼"h x 2¼"w, 2 lbs..... **$379.95**

- **Easy installation inside SP-5/6 speakers**
- **Increases Equipment Value & Performance**
- **Hyperspeed DSP (27ns)**
- **36.8 Million Instructions per Second**
- **80 Kb RAM on DSP Chip • 2 Mb EEPROM**
- **LCD Alphanumeric Display**
- **Visible Memories™ - instant recall**
- **Software controlled front panel**
- **Preset Voice, DATA and CW filters**
- **Programmable filters • Demodulates RTTY**
- **RTTY Wideband for AM and FM**
- **Shortwave listening to 5kHZ**
- **Programmable line output level**
- **Field Upgradable software**
- **More versatile than other DSP filters**
- **Extra Code Space for adding new software**
- **Detailed Manual • Quick Start Section**

YAESU is the registered trademark of Yaesu Musen Co., Ltd., Tokyo, Japan

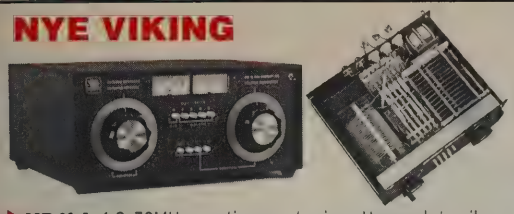
Timewave is the leader in Amateur Radio DSP technology!

Timewave Advanced DSP Filters allow an economical upgrade of your existing radios to new Higher Performance standards.

Timewave was the first to simultaneously Reduce Random Noise, Eliminate Heterodynes and provide Razor Sharp Audio filters. TW precision DSP filters are a must for today's poor signal conditions and crowded bands.

Timewave's technology leading filters are preferred by DX'ers & Contesters world wide.

NYE VIKING



▶**MB-V-A** 1.8–30MHz continuous tuning. Heavy duty silver plated variable inductor with 25:1 vernier dial. 7kV variable capacitor and 15kV switch selected fixed output capacitors. Tunes most antennas 1/4-wave length or longer from 40–2000Ω but some antennas may not tune at 1.8 MHz. Automatic SWR metering without reset or calibration. Separate automatically switched 300W/3KW RMS wattmeter. Precision 2½" backlit meters display SWR and Power, continuously. Rugged, silver plated 5-position pushbutton antenna switch selects 4 antennas: 2 coaxial, single wire and balanced line, and bypass. Trifilar-wound 3KW toroid balun provides balanced output from 200 to 1000Ω, and unbalanced output down to 20Ω. Requires 9V battery for meter and external 12VDC for meter lights. 14¾"w x 6¾"h x 12¼"d, 18 lbs. **$729.95**

▶**MB-V-B** same specifications as MB-V-A above, except no Power or SWR metering capability **$599.95**

NYE Low Pass Filter Installs between transmitter output and antenna. Eliminates Television Interference caused by harmonics from 1.8–30MHz transmitters. Rated at 2KW, handles 5KW SSB peaks. Flat, low loss passband and stopband for over 65dB attenuation above 57MHz. SO-239 connectors, both ends..... ▶020-001 **$49.00**

ASTATIC Microphones

▶ **D-104L (left)** The original "super talk power" microphone, a favorite of hams for decades! High output and 300-7500Hz response with rising characteristics between 500 and 4000 Hz, provides maximum intelligibility. Shock proof cartridge with high impedance crystal element, metal sealed for protection. Solid machined brass parts, heavy mesh grille, all heavy chrome plated. 3" dia. x 1⅛"d, 14 oz. Requires T-UG9 stand **$39.95**

▶ **10DA-L (center)** High-Z dynamic SSB microphone. Controlled 300–3000 Hz response provides high attenuation of the unwanted sideband & better copy through interference. 2⁷⁄₁₆"w x 2⅛"h x 3¹⁄₁₆"d, 17 oz. Black, uses T-UG9 stand..... **$49.95**

▶ **T-UG9 (right)** Accepts the D-104-L or 10DA-L microphone heads. Built-in adjustable preamplifier with an output impedance that matches most transmitters. Side switch bar for PTT with slide-up clamp for locking down. Height is 8½" without head, base is 5½"diameter. Chrome neck, grey base, 6-wire coiled cable. Requires 9V battery for the preamplifier **$49.95**

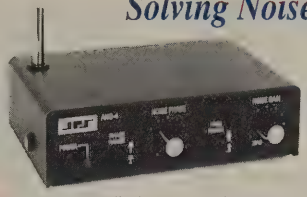
SHURE® Microphone

▶ **526T Series II SUPER PUNCH®** A dynamic microphone with a solid-state preamplifier and adjustable volume control. Works into 500–5000Ω inputs allowing it to replace most ceramic or dynamic original equipment microphones. Tailored 200 to 6000Hz frequency response provides very effective audio. Convenient momentary or locking push-to-talk bar operation. Comes with a coiled 5-conductor cord and wiring guide. Requires connector and 9V battery. 2 lbs, 11 oz **$112.95**

Order Toll Free & use your Credit Card

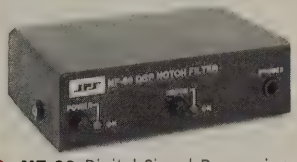
JPS Communications, Inc.

Solving Noise Problems with Digital Signal Processing!



Antenna Noise Canceller

▶**ANC-4** Installs between the antenna and receiver. Usable between 100 kHz and 80 MHz. Eliminates local POWER LINE noise before it enters the receiver to let you hear signals you didn't know were there. Two front panel adjustments, PHASE and GAIN, reduces locally-generated noise typically by 50 dB. Short whip and wire noise pick-up antennas supplied with each unit. Rear panel connector for external noise probe. Automatic transmit switch over, handles up to 250 watts, has internally selectable delay time. Europe CE certified. 12V DC @ 300 mA. 1¾"h x 6"w x 4⅜"d, 2 lbs **$169.95**



DSP Spectral Notch Filter

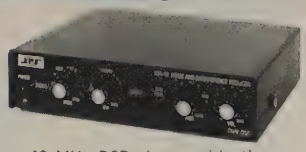
▶ **NF-60** Digital Signal Processing automatically removes MULTIPLE interfering heterodynes (tones and whistles), tune-ups and CW/RTTY tones. Simple connection between your receiver audio output and speaker. Built-in audio power amplifier. 12VDC @ 1A. 1¾"h x 6"w x 4⅜"d, 2 lbs.....**CLOSEOUT $129.95**

Noise Reducer & Filter Unit

▶ **NRF-7** Provides several functions that improve reception for Amateurs and SWLs. Reduces or eliminates atmospheric (white/pink) noise and multiple heterodynes. No-delay filters for AMTOR, PACTOR and break-in CW. Sharp, non-ringing CW and voice filters, plus auto NOTCH filter and white noise reduction. Installs between receiver output and speaker, built-in audio amp. 12VDC. 1¾"h x 6½"w x 5"d, 2 lbs. ..**CLOSEOUT $169.95**

▶ **Power Pack** 115V AC adapter for all JPS units.....**$16.00**

Noise/ Interference Reducer & Filter Unit



▶**NIR-12** Features two 40 MHz DSPs to provide the most powerful and advanced DSP Noise Reduction Unit available. Unparalleled performance, super-selective FIR filters, fully adjustable filter center frequency and bandwidth (3400 Hz to 50 Hz); both Dynamic Peaking AND Spectral Subtraction Noise Reduction; spectral multi-tone NOTCH filter. All modes and functions may be used simultaneously. Use on all operating modes, including AMTOR & PACTOR. Easily installed between the receiver audio output and the external speaker. Europe CE certified. 12V DC @ 1A. 1⁷⁄₈"h x 6½"w x 7¾"d, 4 lbs **$329.95**

▶**SDK-12 Software Development Kit** The interface module and software disk to allow programming of the NIR-12 DSP chips via the serial data bus on your personal computer..... **$35.00**

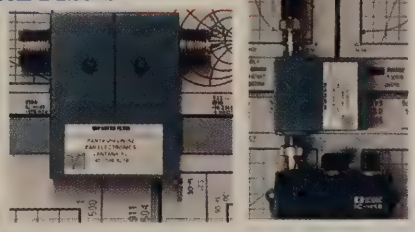
Wide Band Noise and Tone Remover

▶ **NTR-1** A general purpose audio processing unit for noise reduction and multiple tone removal for AM/FM, or other wideband 160– 6600Hz signals. Provides narrow band 100 to 3400Hz operation for SSB, CW or Data. Reduces atmospheric noise with dynamic peaking and removes multiple tones from voice signals. Installs at receiver audio output, built-in audio amplifier. 12VDC. 1¾"h x 6½ "w x 5"d, 2 lbs. .. **CLOSEOUT $129.95**

DSP Filter for Slow Scan TV

▶ **SSTV-1** Improves Slow Scan TV reception. Two DSP filters reduce or eliminate adjacent channel and in-band interference which can cause "tears" and color shifts. Sharp cutoff passband is centered at the1200Hz sync pulse frequency, yet wide enough to pass VIS and other info. Linear phase, steep skirted 1500Hz–2300Hz passband for picture data. Removes any offending tones, interference, etc. below 1050Hz and above 2300Hz. 12VDC, 1¾"h x 6"w x 4¼"d, 2 lbs..... **CLOSEOUT $129.95**

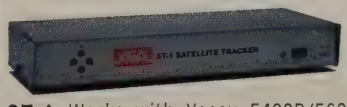
PAR ELECTRONICS Notch Filters



Solve most intermod or front end overload problems from paging systems with these small, asymmetrical, 45 to 54dB Notch Filters. The design is centered on the offending pager spectrum of 152 to 153 MHz and works effectively with an Insertion loss of typically 0.5 dB or less and a V.S.W.R of 1.25:1. Works well with dual-band (2m/70cm) transceivers providing low-loss pass-thru of 70cm signals.

▶**VHFDN152 2-meter Intermod filter for Base or Mobiles** SO-239 connectors, rated at 50W. 2" x 1" x 2½"..... **$62.00**

▶**VHFDN152HT 2-meter Intermod filter for Handhelds** BNC connectors, rated at 20W. 1½" x ¾" x 2" **$68.00**



AEA Satellite Tracker

ST-1 Works with Yaesu 5400B/5600 rotators, and InstantTrack, QuickTrack, RealTrack software. Automatically controls antennas and tuning of various rigs . As a satellite approaches and departs, antennas are pointed in the proper direction and tracked. The rig is tuned to the right up-link/down-link frequencies, correcting for the Doppler shift. Uses serial and parallel port from host computer..... **$369.95**

DCI Bandpass Filters

Installs between your 2m rig and antenna to reduce the strength of out-of-band interfering signals while allowing the signals you want to hear pass through at full strength.

- Eliminate the random squeals, squawks, beeps and strange voices from your VHF radio caused by Intermod from strong, nearby pagers, police radio systems, taxis, etc.).
- Hear the signals you want to hear even in crowded urban centers with high-powered commercial systems.
- Design: (2M/220MHz) four helical resonators with aperture coupling, (440MHz) four 1/4-wave linear resonators with aperture coupling
- Accepts 200 watts of power • Reduces spurious transmitter emissions. • VSWR 1.5:1
- Made of extruded aluminum, copper and brass. 12w" x 3"h 5"d, 2 lb, 11oz • Totally passive, does not need DC power
- **2M model** – Passband: 144-148 MHz, loss <1 dB Selectivity: –57dB at 136MHz/–43dB at 156 MHz
- **220MHz model** – Passband: 222-225MHz, loss 1 typ. dB Selectivity: –33dB at 213MHz/–28dB at 233 MHz
- **440MHz model** – Passband: 440-450MHz, loss typ.1 dB Selectivity: –47dB at 425MHz/–50dB at 456 MHz

▶**DCI 146-4H** 2 meters, SO-239 silver teflon conn..... **$89.00**

▶**DCI 223.5-3H** 220MHz, SO-239 silver teflon conn. **89.00**

▶**DCI 445-10C** 440MHz, "N" silver-teflon-gold conn.....**109.00**

TELEPHONE INTERCONNECTS

CES Communications Electronics Specialties, Inc.

New! 4700VP Telephone Interconnect

- The Most Versatile Simplex or Half Duplex Patch
- True DTMF Regeneration
- 25 Speed Dial Locations • CW-ID
- Full Remote "Over-the-Air" Programming • Local programming
- VERATEC Smart Sampling VOX enhanced Protocol or Simple VOX Control
- Automatic Setup
- LAutomatic Last Number Redial
- User Programmable ID Code
- Comprehensive Toll Restrict with Override Code • Hook Flash
- Call Limit Timer • Courtesy Beep
- Time Out Timer/Warning Beeps
- Reverse Patch Ring • Repeat Audio
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- CTCSS Logic Input
- Lightning Protection
- Connect/Disconnect Control
- Tone Dialing/Multi-Country Pulse Dialing
- Extremely Compact and Rugged Construction (1.5 x 4 x 4 inches)
- **$199.95**

▶CES SDI-50 Automatic Simplex Interconnect Uses VOX-enhanced sampling, gives telephone phone access to handhelds and mobiles. Remotely programmable from any touch phone. Allows telephone-to-mobile signaling for selective calling. Automatic CW ID. Converts base stations to a remote station accessible from any telephone. AC adapter and cables are included. 14⅛"w x 8¾"d x 11 3/16"h, 3¾ lbs **$399.95**

▶CES 410 Personal Patch An economy, easy to use basic interconnect. Does not have all of the user programmable features found in the higher priced CES interconnects. 10-16V DC. 8⅞"w x 6⅛"d x 1¼"h, 2½ lbs ..... **CLOSEOUT $169.95**

GROTHE Sirens & Horns

▶VS-2 Emergency Vehicle Siren Designed for the Volunteer Fireman, a quality built wail-yelp alarm that delivers big sound performance – a whopping 120Dba sound level at 4 ft. Frequency range, 600 to 1200Hz. Pre-wired with a 3-pos. switch (Yelp-Off-Wail), high efficiency waterproof horn speaker, 10 ft. cable, mounting bracket/hardware. 12VDC @ 1.5A, 2.7 lbs **$89.95**

▶VS-3 Vehicle P/A & AirHorn with Rebroadcast A powerful airhorn sound with four different sounds (no siren) really calls attention to your vehicle. Delivers 95 watts output – 120 Dba at 4 ft. By locking down the microphone with the supplied rubber band, you can monitor sound from a mobile rig, scanner or radio via the speaker outside. Includes horn speaker, microphone, electronic center, 10 ft. cable, mounting bracket and hardware. 12 VDC @ 1.5A **$129.95**

▶VS-4 P/A Emergency Vehicle Siren Contains P/A, Rebroadcast, Wail, Yelp, Pulse, Airhorn and P/A Override features, plus volume control of all siren modes. Restricts output when operating in people places. Includes horn speaker, microphone, 3" x 3½" x 2" electronic center , 10 ft. cable, mounting bracket and hardware. 12V DC @ 1.5A **$139.95**

Siren–Light Combo A one-unit siren/yelp alarm, revolving halogen or strobe light and window mount. Fits all cars–just slide on top of the car window and plug into cigarette lighter outlet. The power plug contains an "on" LED and three position switch to select yelp, off or wail modes. 12 VDC @ 5A.

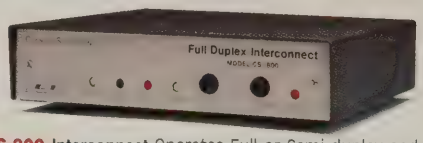
▶VS-2L
Halogen amber, blue or red **$249.00**

▶VS-2LS
Strobe amber, blue or red **$299.00**

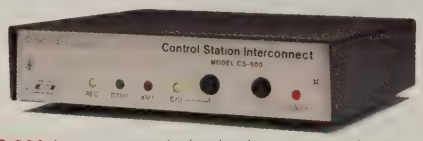
CSI Connect Systems Inc.

CSI interconnects provide a fully automatic interface between your FM base radio and your phone line so that you can initiate and receive phone calls in your mobile or on your HT without assistance.

Contains powerful microprocessor controlled features such as • 90 Memory Speed Dialer • Last Number Redial • Built-in Programming Keyboard and Digital readout • Remote Base Mode • Regenerated Tone or Pulse Dialout • CW ID • Toll Restrict numbers and sequences... And More!



▶CS-800 Interconnect Operates Full or Semi duplex and also has a built-in Repeater Controller. Simply connects to the mic and speaker jacks or your dual transceiver. FCC and DOC approved.12-15 VDC. 7.9"w x 7.5"d x 2"h, 2.5 lbs **$359.95**



▶CS-900 Interconnect A simplex interconnect for use with any simplex transceiver. Can also be used through remotely located repeaters (from your base) for additional range. Digital voice delay is standard. Connects to microphone and speaker jacks of your simplex transceiver. FCC and DOC approved. (Transceiver switching speed does not affect performance). 12-15 VDC. 7.9"w x 7.5"d x 2"h, 2.5 lbs **$359.95**

▶CD-2 Communications Decoder Unit When mobile, the CES CD-2 will make iit easy for you to use open repeaters and autopatches because it decodes and displays any CTCSS, DCS or DTMF codes other amateurs are using on the channel. When at the base, the RS-232 port exports all decoded CTCSS/DCS or DTMF data to your PC allowing use of CD-2P software. Maintains a history of CTCSS/DCS/DTMF data from the CD-2 occurring on the channel being monitored, creates usage graphs, etc. PC/DOS based. 12-15 VDC. 4.9"w x 4.5"d x 1.9"h, 1 lb .. **$269.95**

CD-2P PC Program for CD-2 ..... **$99.95**

For additional information you may contact CSI direct:
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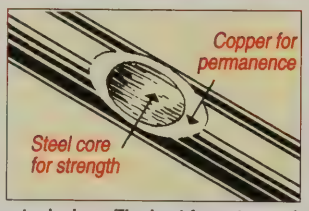
e-mail: sales@connectsystems.com
WWW: www.connectsystems.com

CASTLE RIDGE PRODUCTS, INC

COPPERWELD® Antenna Wire

FORGE-WELDED makes the two metals inseparable!



Solid bare copper-over-steel wire – The best for antennas!
Very strong, steel core has very little stretch and long service life. Copper covering provides low RF resistance, easy to solder. Choice of 12, 14 or 18 gauge, 100, 150, 250, 500 or 1000 ft. rolls.

AN-122	100 ft. #12	$24.95	AN-143	150 ft. #14	$24.95
AN-123	150 ft. #12	29.95	AN-144	250 ft. #14	29.95
AN-124	250 ft. #12	49.95	AN-146	500 ft. #14	54.95
AN-126	500 ft. #12	79.95	AN-148	1000 ft. #14	89.95
AN-128	1000 ft. #12	129.95	AN-181	250 ft. #18	14.95
AN-142	100 ft. #14	19.95	AN-182	500 ft. #18	24.95

ZENITH High Pass Filter

▶ A-8477 TVI protection from 6 to 160 meter transmitters. >45dB attenuation at 52MHz and lower. 75Ω type-F connectors ..... **CLOSEOUT $9.95**

W5YI/WEST

STUDY GUIDES

NO CODE PLUS TECHNICIAN STUDY GUIDE *by Gordon West, WB6NOA*
Are you anxious to get on the air? Here's everything you need to become a licensed ham – quick and easy without passing a Morse code test! New 2nd edition, by Gordon West, WB6NOA covers the newest exam questions of July 1, 1993 to 1997. This fully illustrated 236-page textbook includes all possible questions, multiple choices and answers ..... **▶GWNC $9.95**

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by Gordon West, WB6NOA

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▶NCVS Covers everything from antennas and feedlines to rules and regulations. Ideal for instructors and students and full of information everyone can use. 88 minutes. **$21.95**

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▶GWGW General Written Theory, 2 tape set **$9.95**
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MORSE CODE TEST PREPARATION

▶GWNT Code Teacher 0-5 WPM **$9.95**
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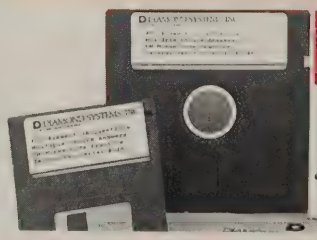
- **Each has 6-tape course prepares you to pass Novice, General or Extra Class exams • "Gordo" voice Instructions • Rapid Farnsworth Method • Plain Language & Random • Lots of Humor!**

▶GWN6 For Beginners, 0 to 7 WPM **$29.95**
▶GWG6 For Speed Building, 5 to 16 WPM **$29.95**
▶GWE6 For Advanced Telegraphers, 10 to 28 WPM... **$29.95**

W5YI SOFTWARE

IBM COMPATIBLE

▶NCS No Code License Software **$29.95**
▶HOS No Code thru Extra Class License Software **$39.95**



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Amateur Radio License Study Courses for IBM PC/XT/AT and "look-alikes" using PC/MS DOS

***It's Easy!* . . all the LATEST study material needed for the FCC Exam • Theory, Code, and Regulations – included.**
Prep material for Amateur Licenses Novice through Extra class and No-Code Technician! Software includes complete FCC VEC questions, all sub elements, generates 1000's of practice tests, keeps score, plus a code teaching program.

DS-IBM-N	Novice class	$39.95	DS-IBM-G General class	$34.95
DS-IBM-T	Technician class	34.95	DS-IBM-A Advanced class	49.95
DS-IBM-NC	No Code Tech	49.95	DS-IBM-E Extra class	49.95

MICROPHONES • HEADSETS • ACCESSORIES

HEIL PRO-SET

Boomset Headphones

A rugged, lightweight boomset designed for long wearing time during contests, etc. The headband has detents on each side for adjustment, and is fully padded for comfort. The vinyl earpads are also heavily padded, seal out noise, and are removable for washing. The flexible microphone boom adjusts to about any location and folds up for storage. Specify HEIL HC-4 or HC-5 mic cartridge (below) **$131.00**

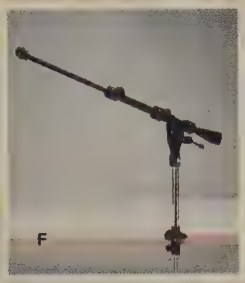
AD-1 Adapter Cables (D) for use with ICOM, KENWOOD, TEN-TEC or YAESU transceivers ..... **$14.99** ea.

HEIL PRO-MICRO

Boomset Headphones

The Pro Micro is the newest additional to the Heil Pro line. It replaces the old BM-10 and BM-5 series headsets. It is simply a miniature version of the Pro Set. It's main feature besides being smaller and lighter weight is that it does not cover the entire ear. Hams want to hear their surroundings. Using the Heil Pro-Micro you can do just that. Available with the HC-4 or HC-5 element (below) **$105.00**

AD-1 Adapter cables (D) for use with ICOM, KENWOOD, TEN-TEC or YAESU transceivers ..... **$14.99** ea.



PRO 5 (A) To answer the concern of not covering both ears, the Pro 5 was created. Provides all of the same quality and performance as the Pro Set with out covering the right ear. Available with either the HC-4 or HC-5 element (below). Use AD-1 adapter (above), specify HC-4 or HC-5 **$120.00**

HM-10 MICROPHONE (B) Hand-held studio-style microphone with desk stand or boom mount options. Choice of HEIL cartridges. Operate PTT or VOX, it's designed to work with virtually any late model transceiver. When ordering specify HC-4 or HC-5 cartridge (below)..... **$63.96**

HM-10 DUAL (C) Amateur Radio's *ultimate* microphone. Versatile in that it has *both* HC-4 DX element and HC-5 Full Range microphone cartridges built-in – and switch selectable for varying conditions..... **$112.96**

HM-10 CABLES *(not pictured)* Designed to work with any transmitter. When ordering specify your radio and the HM-10 will be shipped with the correct color coded cables. Specify for ICOM (HEI CC1I), KENWOOD (HEI CC1K) or YAESU (HEI CC1Y), ... **$25.99**

TB-1 TABLE BASE (E) For HM-10 series microphones. 6 inches high, heavy (2 lb., 10 oz) cast metal base with non-skid cork feet. **$19.95**

MA-1 BOOM AND CLAMP ASSEMBLY (F) For HM-10 series microphones. The boom is adjustable from 6 to 24 inches and attaches to desk or shelf, or hangs from ceiling. Swivels a full 360° and places HM-10 or DUAL TEN microphone exactly where you want it. You can use the FS-1 footswitch for convenient, hands-free PTT operation..... **$49.99**

FS-1 FOOT SWITCH (G) Provides convenient foot-control of PTT function of any transmitter. Non-skid rubber pad on both top and bottom, supplied with 7 ft. cable and ¼" phone plug. **$26.95**

HEIL MICROPHONE CARTRIDGES

Most communications microphones today were designed for public address – not for SSB, with the frequency response needed for getting through pile-ups, or providing maximum voice clarity. If you aren't satisfied with the *"sound of your station"*, you can solve this problem by replacing the cartridge in your microphone with a ***HEIL KEY ELEMENT*** for a dramatic improvement. It's tiny in size, and easily replaces existing cartridges in most microphones.

HC-4 – *The DX Dream Machine*

The replacement microphone cartridge for Contest and DX operators. It's engineered with a high-pitched, pile-up busting frequency response of 500Hz to 3800Hz with a 10dB peak at 2000Hz, and a sharp 12dB per octave roll off at 500Hz. Provides your rig with excellent clarity and more punch for getting through the pile-ups. Impedance: 2kΩ @ 1000Hz – works well into low (500-600Ω) and medium (2k-5kΩ) inputs. Cardioid pattern. Size: 0.530"d x 0.850"w x 0.310"h **$29.95**

HC-5 – *The Key Element*

The replacement microphone cartridge for everyday Rag Chewing. Engineered with full range articulation and maximum voice clarity. Not mushy, bassy paging-type audio, but very clear, easy-to-understand SSB audio. Response: 350Hz to 4000Hz. with a sharp roll-off under 300Hz and above 3100Hz with a peak at 2100Hz. Impedance: 2kΩ @ 1000Hz – works well into low (500-600Ω) and medium (2k-5kΩ) inputs. Cardioid pattern. Size: 0.530"d x 0.850"w x 0.310"h..... **$29.95**

MFJ TUNERS, SWITCHES, DUMMY LOADS & METERS

See Price List and Index for other MFJ models ....

New! MFJ-906 6m tuner w/wattmeter $74.95

New! MFJ-903 6-meter tuner $49.95

▶MFJ-16010 Random Wire Tuner *(top)* Covers 1.8–30 MHz continously, and handles 200W PEP. Lets you operate all bands anywhere, from apartment, motel, camping, etc. with any transceiver using a random length wire.antenna. 2w" x 3"h x 4"d **$39.95**

▶MFJ-901B Versa Tuner Covers 1.8–30 MHz continuously, and handles 200W PEP. Matches coaxial cable, random length wires and balanced lines (built-in 4:1 balun). Very popular for use between a transceiver and a final amplifier for proper matching and full drive, or as a mobile antenna tuner. The smallest Versa Tuner, 5"w x 2"h x 6"d..... **$69.95**

▶MFJ-945E Mobile Tuner Covers 1.8–30MHz+6M and handles 300W PEP. Extends mobile antenna bandwidth and eliminates having to frequently stop, get out, and adjust your whip when making frequency changes. Matches coax cable only, has built-in cross-needle SWR bridge and wattmeter with 50/300 and 5/30W ranges. 8"w x 2"h x 6"d .**$89.95**

▶MFJ-941E Versa Tuner II Covers 1.8–30 MHz and handles 300W PEP. Matches everything! – coax fed dipoles, vees, whips, verticals, beams, random wires and balanced lines (built-in 4:1 balun). Built-in lighted Cross-Needle SWR/Power meter with 300/50W and 30/5W ranges. Eight position antenna switch to select two coax lines (direct or thru tuner), random wire/balanced line, or external dummy load. 10⅝"w x 2⅞"h x 7"d **$99.95**

▶MFJ-948 Deluxe Tuner Covers 1.8–30 MHz and handles 300W PEP. Has all features of MFJ-941E, plus it has a larger lighted peak reading Cross-Needle SWR/Power meter with 300/50W & 30/5W ranges, and lamp switch..... **$119.95**

▶MFJ-949E Deluxe Versa Tuner II Has the same power, tuning, and switching capability as MFJ-941E described above. In addition, it has a lighted peak reading Cross-Needle SWR/Wattmeter, and a built-in 300W 50 Ω dummy load. 10⅝"w x 2⅞"h x 7"d. **$139.95**

▶MFJ-962C Versa Tuner III • Covers 1.8–30 MHz and handles 1.5KW PEP. Matches coax, random wire or balanced line (built-in 4:1 balun). Lighted peak and average reading Cross-Needle SWR/Wattmeter with 200/2000W ranges. Six position switch for 2 coax lines (direct or thru tuner), random wire and balanced lines. 10¾"w x 4½"h x 15"d **$229.95**

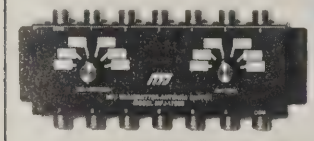
▶MFJ-986 Differential-T Tuner™ Covers 1.8–30 MHz, handles 3KW PEP, tunes most antennas. Features a broadband T-network with AirCore™ Roller Inductor and differential capacitor. Lighted peak/average reading Cross-Needle SWR/Wattmeter with 200/50W and 2000/500W ranges. inductor spinner knob with 3-digit turns counter, 6-position antenna switch and external dummy load switches, 4:1 balun. 10¾"w x 4½"h x 15"d **$269.95**

▶MFJ-989C Versa Tuner V *Heavy-Duty!* Covers 1.8–30 MHz, handles 3KW PEP, matches everything! – coax fed antennas, random length wires, and balanced lines. Features AirCore™ Roller Inductor with spinner knob and 3-digit turns counter. Lighted peak/average reading Cross-Needle SWR/Wattmeter with 200/2000W ranges, 50Ω, 300 watt dummy load, 4:1 balun, 6 position antenna switch, and tilt bail. 10¾"w x 4½"h x 15"d **$299.95**

▶MFJ-921 & MFJ-924 Tuners For base or mobile operation, matches a wide range of impedances. The MFJ-921 covers 2 meters and 220MHz, the MFJ-924 covers 440MHz only. Both are rated at 300W PEP and feature a built-in SWR/Wattmeter. 8"w x 2½"h x 3" **$69.95**

▶MFJ-931 Artificial Ground Eliminates problems caused by an inadequate ground. Resonates a random length wire to act as a tuned counterpoise. Improves efficiency. Covers 1.8–30MHz, RF ammeter tuning. 7½"w x 3½"h x 7"d. Not for coaxial fed antennas. **$74.95**

▶MFJ-1701 Antenna Switch Six positions. Rated for 2KW PEP or 1KW CW, 1.8–30MHz. SO-239 connectors. Unused positions are grounded. 10"w x 3"h x 1½"d. **$39.95**



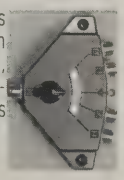
▶MFJ-1700B Antenna/Transceiver Switch Select from 1-6 antennas and 1-6 rigs in any combination. Tuner, SWR meter, linear, etc. Can be left in line to operate with any combination. Handles 2KW PEP or 1KW CW, 1.8-30MHz. SO-239 connectors. Unused positions aregrounded. 10"w x 3"h x 1½"d..... **$69.95**

▶MFJ-1702B Antenna Switch 2 positions plus center ground, 50Ω. Rated to 500MHz with <0.2dB loss, 2.5KW PEP or 1 KW CW. >60dB isolation @ 300 MHz/>50 dB @ 450 MHz. Unused terminal grounds for lightning protection..... **$21.95**

▶MFJ-1702BN Low loss on UHF, with Type N connectors, good up to 1.1 GHz **$31.95**

▶MFJ-914 AutoTuner Extender Tunes any antenna with your automatic tuner. Extends range, no pre-tuning, ... **$59.95**

▶MFJ-212 Matchmaker Tune-up Device Tune your antenna without transmitting, 160 thru 6 meters . **$79.95**



▶MFJ-1704 Antenna Switch 4 positions, plus center ground. 50Ω-rated to 500MHz with <0.2dB loss. Handles 2.5KW PEP, 1KW CW, >50dB isolation @ 500MHz. Includes a replaceable lightning protection device that reduces lightning induced surges/static. **$59.95**

▶MFJ-1704N with Type N connectors .. **$69.95**

▶MFJ-250 Versaload A 50Ω, oil-filled dummy load. Provides low VSWR to 400MHz. Rated 1 KW CW or 2KW PEP for 10-minutes, with 1/2 rating for 20-minutes; 200W CW, 400W PEP continuous. 7½"h x 6⅝" dia. Includes oil .. **$49.95**

▶MFJ-250X same, without oil **$29.95**

▶DRY DUMMY LOADS An air cooled, non-inductive 50Ω resistor in a perforated metal housing. Handles full rated load for 30-seconds. with a de-rating curve up to 5-minutes.

▶MFJ-260C (HF/VHF) 300W, 1-650MHz, 2½"w x 2⅝"h x 7"d. **$29.95**

▶MFJ-264 (UHF) Up to 650MHz, usable to 750MHz. Rated at 1.5KW for 10-seconds, 100W for 10-minutes. 3"w x 3"h x 7"d..**$59.95**

▶MFJ-704 Low Pass Filter Reduces TVI caused by harmonics generated by 1.8-30MHz transmitters falling in the TV bands. 52Ω, low insertion loss and high harmonic attenuation. Legal power, SO-239 connectors. 3"w x 3"h x 9"d ..**$39.95**

▶MFJ-1118 High Current Outlet Connects to 12VDC source and provides two pair of high current (total 30A) for HF or VHF rigs, and six pair of binding posts for other 12V station accessories. Has built-in voltmeter, switch and fuses. **$69.95**

▶MFJ-1116 DC Power Outlet Connects to 12VDC source and provides 8 HD-5 5-way binding posts for powering multiple items. Built-in voltmeter, switch and fuse. RF bypassed, outlets spaced for banana jacks 13½"w x 2¾ "h x 2½ "d **$44.95**

▶MFJ-1112 as above, 5 posts, no meter or switch **$29.95**

▶MFJ-259 HF/VHF SWR analyzer with RF Resistance Meter Covers 1.8-170MHz. Has a built-in 10-digit LCD frequency counter and vernier tuning. Automatic!, just connect antenna, set analyzer to frequency and read SWR directly. Monitor SWR changes as you make adjustments. Conveniently measures RF feedpoint resistance up to 500Ω at minimum SWR. Separate BNC input allows use as a frequency counter. Accurate, 1 ppm 10MHz crystal time base; .01, .1, 1 and 10 sec. gate times. Uses 6 AA cells or 110V AC with MFJ-1312B adapter. 4"w x 2½" x 6¾" **$219.95**

▶MFJ-29B Carrying pouch for 259 with window and control knob holes **$24.95**

▶MFJ-66 Dip meter adapter for MFJ-249/259, Two coils for coverage of 1.8–30MHz and 30–170 MHz **$19.95**

▶MFJ-812B 2 meter/220MHz SWR/Wattmeter Forward and reflected power (3/300W), and SWR. Reads SWR from 14 to 220MHz & Field Strength. 4½"w x 2¼"h x 3"d.**$29.95**

▶MFJ-815B SWR/Wattmeter (left) Covers 1.8–30MHz. Lighted Cross-Needle meter simultaneously monitors peak/average, forward/reflected power and SWR without adjustments. Two ranges: 200W/2000W forward, and 50/500W reflected. 7¼"w x 4½"h x 3½"d. Llight requires 12VDC **$69.95**

▶MFJ-817 Same as MFJ-815B but covers 144 and 440MHz. Power ranges: 200/20W forward, and 50/5W reflected ...**$74.95**

▶MFJ-864 HF/VHF/UHF SWR/Wattmeter (right) Covers 1.8 to 60,144 and 440MHz. Separate directional couplers and connectors for each band. Reads forward /reflected power simultaneously on cross-needle meter with 30/300W ranges **$79.95**

▶MFJ-862 VHF/UHF SWR/Wattmeter Same as MFJ-864 but covers 144, 220 and 440MHz bands..... **$49.95**

▶MFJ-860 HF SWR/Wattmeter Same as MFJ-864 but covers 1.8 to 60 MHz **$39.95**

MFJ CW Transceivers Single band, CW only 5 models. Cmpact portable, up to 5W output. Features include: superhet receiver, speaker, vernier tuning, 8-pole crystal filter, RIT, AGC, semi/full break-in, sidetone. 12-15 VDC. 6"wx 6½"d x 2½"h.

▶9015 (15M) 21–21.2 MHz
▶9017 (17M) 18.068–18.110MHz
▶9020 (20M) 14–14.075MHz
▶9030 (30M) 10.1–10.15MHz
▶9040 (40M) 7–7.15MHz
$169.95

▶MFJ-9420X 20-meter SSB Travel Radio Features 12W output, a hot receiver and potent speech processor.Smooth reduction-drive VFO tuning, S-meter. 12VDC. 2½"x 6½" x 6" ...**$219.95**

▶MFJ-9440X 40-meter SSB Travel Radio w/mic **$219.95**

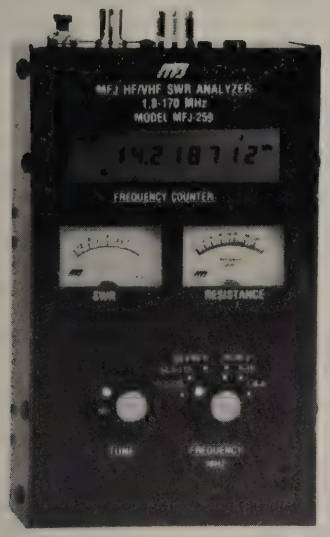
▶MFJ-9475X 75/80M SSB Travel Radio w/mic **$219.95**

▶MFJ-9406X 6-meter SSB Adventure Radio Features 10W PEP, MFJ's Constant Current™ speech processing and VFO tuning. A crystal-mixed single conversion superhet with low-noise preamp digs into the noise floor to capture weak signals. If there's a signal there, you'll hear it! 12VDC. 2½"h x 6½"w x 6"d.....**$239.95**

▶MFJ-1786 Hi-Q Loop Antenna Covers from 10 to 30MHz, continuous. Tunable from controller that features an SWR/Wattmeter and auto band selection. Only 36" diameter, installs almost anywhere! Uses 50Ω coax only, no separate control cable needed **$269.95**

MFJ *HF/VHF* SWR Analyzer™
with RF Resistance Meter at an AES price!

***Read your antenna SWR from 1.8-170 MHz . . . 10-digit LCD frequency counter . . . RF Resistance Meter™ . . . smooth reduction-drive tuning . . . simple-to-use . . .* in stock and ready for immediate shipment . . .**



MFJ-259
$219.95
AES PRICE

If you work with antennas, MFJ's revolutionary new *SWR Analyzer*™ is the best investment you'll ever make! Now you can diagnose a wide range of antenna problems instantly with one easy-to-use instrument.

What the MFJ-259 Does

The MFJ-259 gives you a complete picture of your antenna's performance anywhere between 1.8 and 170 MHz -- you can even check SWR outside the ham bands without violating FCC rules. Set the bandswitch and tune the dial--just like your transceiver. SWR is displayed instantly!

RF Resistance Meter™

Does 2:1 SWR mean 25 ohms or 100 ohms? *The new MFJ-259 tells you at a glance!*

Now you can measure RF resistance up to 500 ohms at minimum SWR -- instantly -- on MFJ's *exclusive* side-by-side RF Resistance and SWR Meters!

Take the guesswork out of building matching networks and baluns for your antennas.

Watch the effects of spacing on radiation resistance as you adjust your antenna.

Here's What You Can Do . . .

Find your antenna's true resonant frequency from the shack.

Tune the antennas on your tower and watch SWR change instantly as you make each adjustment. You'll know exactly what to do by simply watching the display.

Tune critical HF mobile antennas in seconds -- without subjecting your transceiver to high SWR.

Measure your antenna's 2:1 SWR bandwidth on a single band, or analyze multiband performance over the entire spectrum from1.8 to 170 MHz!

Measure inductance, capacitance, resonant frequency of tuned circuits, transmission line velocity factor/impedance/loss.Test RF chokes, transformers, baluns.

Adjust your tuner for a perfect 1:1 match without creating QRM.

And this is only the beginning! The MFJ-259 is really *four* test instruments in one: an accurate RF signal generator, a high resolution 170 MHz frequency counter, *RF Resistance Meter*™ and an *SWR Analyzer*™. MFJ's new *SleepMode*™ saves batteries for extra-long-life.

Free Manual

MFJ comprehensive 18 page instruction manual is packed with useful applications -- all explained in simple language you can understand!

For free manual write or call MFJ.

Take It Anywhere

The MFJ-259 is fully portable, powered internally by 8 AA batteries or 110 VAC with MFJ-1312B, $12.95. It's in a rugged all metal cabinet that's a compact 4x2½x6¾ inches. Take it to remote sites, up towers, on DX-peditions -- anywhere your antennas are located.

For rough service, pick up a convenient **MFJ-29**, $19.95, or **MFJ-29B**, $24.95, padded carrying pouch to keep your MFJ-259 close at hand and looking like new.

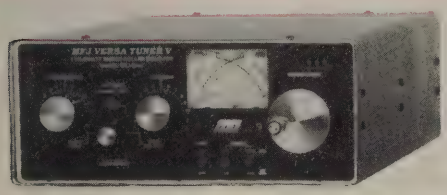
How Good is the MFJ-259?

MFJ SWR Analyzers™ work so good, many antenna manufacturers use them in their lab and on the production line -- saving thousands of dollars in instrumentation costs! Professional installer and technicians use them worldwide.

Get More by Paying Less

With the MFJ-259, you get full 1.8 to 170 MHz coverage, simple operation, instantaneous readings, a high accuracy frequency counter and MFJ's exclusive *RF Resistance Meter*™-- all for a low $219.95.

MFJ's World Famous 3 KW tuner



MFJ-989C
$299.95
AES PRICE

If you won't settle for less . . . here is the finest 3 KW tuner money can buy!

The rugged 989C is the finest 3 KW antenna tuner money can buy. **Here's why . . .**

The MFJ-989C handles 3 KW PEP SSB and covers 1.8 to 30 MHz, including all MARS and WARC bands.

You can match dipoles, verticals, inverted vees, random wires, beams, mobile whips, shortwave -- nearly any antenna. Use coax or balanced lines.

MFJ's *exclusive super heavy duty AirCore*™ roller inductor has an air core that *can't* burn up!

You get high-Q, low loss and exact inductance control for absolute minimum SWR.

MFJ's exclusive *Self-Resonance Killer*™ removes damaging self-resonances.

The MFJ-989C's two massive 250 pf transmitting variable capacitors have extra wide 0.27 inch spaced stator plates. Handle 6000 volts and amps of RF current for *arc-free* operation.

The MFJ-989C *super heavy duty* antenna switch is made of two individual ceramic wafers wired in parallel. Wide spaced, heavy duty contacts handle extreme voltages and currents. *We've never burned one up!*

MFJ's *super heavy duty current balun* has two giant 2½ inch toroid cores with Teflon® wire connected to ceramic feedthrough insulators.

Use balanced lines without core saturation or voltage breakdown.

A full-size 300 watt non inductive 50 ohm dummy load is built-in.

Read SWR, forward, reflected power *simultaneously*. Read peak and average power in two ranges.

The MFJ-989C premium, low profile all-aluminum cabinet has a sub-chassis that adds strength and RFI protection. Has convenient flip stand. 10¾x4½x15 inches.

The MFJ-989C 3 KW Antenna Tuner comes with MFJ's famous *No Matter What*™ full one year unconditional warranty. That means MFJ will repair or replace (at our option) your product for one complete year. ***Call AES today!***

MFJ Deluxe 300 Watt Tuner

MFJ-949E
139.95
AES PRICE

More hams use MFJ-949s than any other antenna tuner in the world! Why?

The world's leading antenna tuner has years of proven reliability and can match *any* real antenna!

The MFJ-949E tunes out SWR on dipoles, verticals, inverted Vs, beams, random wires, mobile whips, SWL.

Use coax, random wire, or balanced lines with *heavy duty* 4:1 balun. Full 1.8-30 MHz Operation

1000 volt tuning capacitors, extra heavy duty inductor switch, Teflon® insulators and proper L/C ratio gives you *arc-free* operation 1.8 to 30 MHz. Handles 300 watts PEP SSB.

MFJ's lighted Cross-Needle Meter shows you SWR, forward and reflected power simultaneously. Read peak/average on 300/30 watt ranges.

8 position super antenna switch selects two coax fed antennas, random wire/balanced line or built-in dummy load for use through your MFJ-949E or direct to your radio.

MFJ's *QRM-Free PreTune*™ lets you pre-tune your MFJ-949E *off-the-air* into its built-in dummy load.

A full size -- 3/4 inch diameter by 5 inches -- non-inductive 50 ohm dummy load easily handles 300 watts of abusive tune-up power.

The inductor switch is *custom* designed to withstand extremely high RF voltages and currents.

Each MFJ-949E cabinet is chemically treated and has a new tough scratch-proof *vinyl* cladding. You won't find a tougher, longer lasting finish anywhere.

Detailed logging scales and legends are *permanently* silk screened on a real aluminum front panel and back panel.

Every MFJ-949E uses Teflon® insulating washers, wing-nut for ground post, fire-retardant epoxy glass PC board, heavy .063 inch thick aluminum chassis, heavy gauge wire, custom cabinet.

Comes with MFJ's famous *No Matter What*™ 1 year unconditional warranty. That means we will repair or replace (at our option) your product for one complete year. ***Call AES and place your order today!***

MFJ . . . the world leader in ham radio accessories

AEA Graphic Antenna Analysts

▶These compact, battery powered units measure, compute, and present a graphical display curve of SWR versus frequency on a high resolution LCD display. They show an antennas performance over it's operating range, its center frequency SWR and return loss. Range: **(HF)** 1–32MHz; **(V/U)** 120–175MHz, 200–225MHz, and 400–475MHz. Both show SWR up to 10:1. All functions, frequency, and display width adjustments are controlled via the keypad. An RS-232 interface for IBM PC-compatible computer allows remote control, remote display, and plot saving (optional AA.Com software required). Uses 8 AA alkalines (supplied) or 12-16VDC. 8"h x 4¼"w x 2¼"d, 1 lb, 10 oz.

SWR-121 HF $349.95 • SWR-121 V/U VHF/UHF $399.95
AA.COM PC Software $69.95

COMET SWR/Power Meters

Three models with separate meter and RF sensor with 6 ft. long cable. Lighted, cross-needle meter with three selectable power ranges, shows forward and reflected power, and SWR simultaneously, plus indicates DC voltage from power source. 50Ω, 12VDC. 4¾"w x 3⅛"h x 1¾"d, 1 lb, 4 oz.

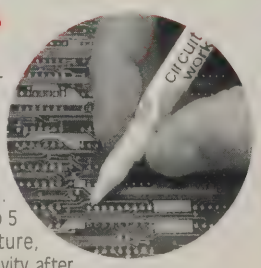
▶**CMX-1** 1.8–60MHz; 30, 300, 2000W ranges **$189.95**
▶**CMX-2** 1.8–200MHz; 20, 50, 200W ranges **179.95**
▶**CMX-3** 140–525MHz; 20, 50, 200W ranges **169.95**

▶*New!* **COMET NGC-3000** Bench SWR & Power Meter. Covers 118 to 530MHz. Large iluminated meter with 5W/20W/200W power ranges. Average and PEP readings. Requires 12V DC 7½ w x 3¼"h x 4¼" d, 2 , 2 oz..... **$99.95**

More Comet meters – see Price List

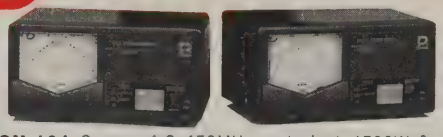
▶**COMET WS-1M Window Mounting Bracket** Perfect for vans and mini-trucks with pop-out windows, rental cars, etc. A multi-adjustable mounting bracket includes 11½ ft. of quality coaxial cable with gold-plated UHF connectors. Suction cups on the inside as well as outside of the bracket, along with heavy-duty construction allows for mounting gain-type antennas such as the Comet B-20 or Comet SB-5 dual-bander models, and others **$64.95**

Circuit Works Conductive Pen



Features a specially a formulated silver thermoplastic designed to link circuit board components, repair traces, make jumpers and shield delicate electronics. Easy to apply, air drys in 3 to 5 minutes at room temperature, achieves maximum conductivity after 20 minutes. Can be heat cured in 1 to 2 minutes at 250 to 300°F. May be soldered at 350°F for <5 seconds after heat cure by using a low temperature tin, lead or silver solder with flux for best results. For traces 1/32" and wider – pen contains enough material for 100 ft trace..... **$11.95**

DAIWA SWR & Power Meters



▶**CN-101** Covers 1.8–150MHz, rated at 1500W from 1.8–60MHz and 1000W at 144MHz with 15/150/1500W RMS or PEP power ranges. Cross-needle meter shows forward/reverse power and SWR simultaneously; ±10% full scale accuracy. SO-239 connectors. 6"w x 3"h x 3⅞"d, 1½ lbs..... **$89.95**

▶ **CN-103M** Same as CN-101, except 140 to 525MHz coverage and rated at 200W with 20/200 watt meter ranges . **$99.95**

▶**NS-660PA SWR Meter (left)** Covers 1.8–150MHz, with 30/300/3000W ranges. Cross-needle meter shows RMS or PEP forward and reverse power, and SWR simultaneously. 50Ω, SO-239 connectors. 7¼"w x 3¾"h x 5⅞ "d, 2¾ lbs **$199.95**

▶**DP-830 Digital SWR Meter (right)** Covers 1.8–150 and 149–525MHz. Fully automatic! Large LCD displays forward RMS or PEP power, and SWR by digits and bargraph, simultaneously. Power: 1.5KW (1.8–150MHz) & 150W (140–525MHz). SWR beep tones, clock functions displays 4 different times, SO-239 connectors. 5⅞" w x 2½"h x 4⅝"d, 2¼ lbs..... **$319.95**

▶**DP-820 Digital SWR Meter** Same as DP-830, except covers 140 to 525MHz, 150W and no clock function..... **$249.95**

▶**CN-410M Compact SWR and Power Meter** For mobile or base use. Covers 3.5–30MHz, rated at 150W with 15/150W forward & 50W/5W reflected power ranges. The backlighted, cross-needle meter shows forward/reverse power and SWR simultaneously. SO-239 connectors, mounting bracket. 2¾"w x 3"d x 3⅞"d, 10 oz..... **$89.95**

▶**CN-460M** Same features and rating as CN-410M, except covers the 140–450MHz range..... **$89.95**

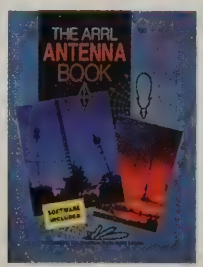
▶**CN-465M** Same features as CN-410M/460M, except covers 140 to 450MHz and rated at 75W with 15/75W forward and 5/25W reflected ranges. **$89.95**

VANCO Low Cost Meters

▶ **SWR-1 Field strength/SWR meter Range:** 3.5 to 150MHz; **Impedance:** 52Ω; **SWR:** 1:1–3:1; **Accuracy:** ±5%; **Meter Sensitivity:** 300uA; **Antenna:** 5" whip; **Size:** 6"h x 2"w x 2⅞"d, 14 oz..... **$19.95**

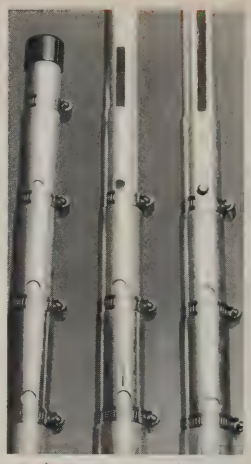
▶**SWR-2 SWR/Power meter Frequency Range:** 1.7 to 150MHz; **Impedance:** 50–52Ω; **SWR:** 1:1–3:1; **RF Power:** 0–10 and 0-100 watts; **Accuracy:** (SWR) ± 5% (Power) 10%; **Meter Sensitivity:** 200 uA; **Size:** 6"w x 2"h x 2"d, 14 oz. ..... **CLOSEOUT $29.95**

▶ **SWR-3 SWR meter Frequency Range:** 1.7 to 30MHz; **Impedance:** 50–52Ω; **SWR:** 1:1–3:1; **Accuracy:** ±5%; **Meter Sensitivity:** 300 DC µA; **Dimensions:** 2½" x 3½" x 3", 6 oz.. **$14.95**



▶**The ARRL Antenna Book** The 17th edition, 736 pages – nearly 1000 illustrations! Discusses: State-of-the-art antenna and transmission line theory and construction. Antenna fundamentals, propagation, transmission lines, yagis, quads, wire antennas. Antennas for limited space, portable, mobile, VHF, UHF, microwave and space. Includes a 3-1/2" disk with quality antenna-related software for the IBM PC & combatibles. **ARR126 $30.00**

NEW WAVE Antenna



PORTAPLE Collapsible Masts

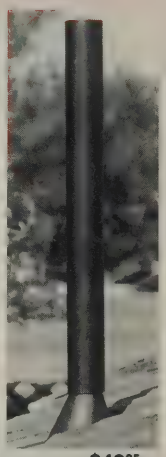
For portable or temporary antenna installations!

These telescoping 7-section, 6063-T832 polished aircraft aluminum masts taper from 2" to 1¼" and are easily raised by one person at ground level in seconds. Each section joint has a 4" overlap and snaps into place. Rotates at any section along its length, or locks.

▶**Adventurer** 47" to 12 ft...**$109.95**
▶**Traveler** 59" to 19 ft.....**$124.95**
▶**Rover** 71" to 26 ft.....**$149.95**
▶**Expeditioner** 83" to 33 ft.....**$174.95**
▶**Explorer** 95" to 40 ft.....**$199.95**

▶**Big Foot** Park-on steel mount for supporting portable masts. Primed, ready to paint. 8¾ lbs **$119.95**

Forbes Group Ventenna™



Stealth! Get around those antenna restrictions and finicky neighbors. The **Ventenna** is virtually unnoticeable because it looks like part of the normal structure. To install, just slip it over an existing 1" to 2½" plumbing vent pipe, connect up your coax and you're on the air.

Ready to go! – No Tuning or Measuring is required.

Choose from single band models for 2 meters, 220MHz or 440MHz and a 2M/440MHz Dual Bander.

▶**VT-14** 2 meters, 3 ft. tall, 2.6dB gain **$49.95**
▶**VT-22** 220MHz, 25" tall, 2.6dB gain **$49.95**
▶**VT-27** 2m/440MHz Dual bander **$74.95**
▶**VT-44** 440MHz, 14" tall, 2.6dB gain **$49.95**
▶**VT-15S** Scanner Model 3 ft. tall, 2.6dB gain **$49.95**

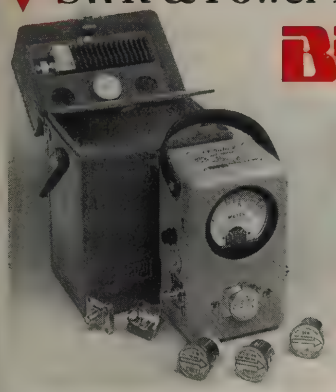
uniden

Quality Goes the Distance

Extend A Phone Cordless Phones

UNIDEN XC-3510 25 Clear Channel AutoScan Cordless Extend-A-Phone 25 Channel operation provides improved "clear channel" performance. Loaded with exceptional features and built with quality: 10 Number Memory – program up to 10 numbers for quick dialing;. 3 One-Touch Memory Dialing – instantly access most frequently called phone numbers; 25 Channel AutoSCan – automatically scans up to 25 channels to insure the clearest reception;.Tone/Pulse Dialing; 14-Day Long Life Battery; Flash/Redial; Page/Find; Hearing Aid Compatible; Security feature – electronically locks phone to correct handset to prevent phone from being activated by other electronic equipment **$79.95**
DX-3555 25 ch scrambled dual pad cordless **109.95**
DX-4519 25ch scrambled cordless phone.... **CLOSEOUT 89.95**

SWR & Power Meters...



BIRD

Carrying case, dummy load, elements and connectors are optional.

Case will hold three additional elements (6) instead of dummy load as shown.

▶**43 THRULINE® Wattmeter** Measures incident and reflected power in coaxial transmission lines with 5% of full scale accuracy; insertion VSWR is less than 1.05. Comprised of a line section, and a direct-reading meter with expanded scales in 25, 50 and 100 units. Rugged aluminum case. Supplied with SO-239 Quick Change (QC) type connectors; optional UHF, N and BNC types available. Optional plug-in elements (see table below) provide a wide choice of frequency ranges from 2–1000MHz, with power levels up to 5000W (2–30MHz) and up to 1000W (30–1000MHz). Select one or more elements now, add others as needed. 6⅞"h x 5⅛"w x 3⅝"d, 3 lbs..... **$250.00**

▶**43P Peak Reading Wattmeter Meter** Same versatile functions as the BIRD 43, but includes switch selectable Peak Reading (PEP) capability. Uses the same plug-in elements, QC connectors and accessories.Uses two 9V batteries..... **$377.00**

▶**4431 THRULINE® Wattmeter** Same as the 43, but with a built-in variable RF signal sampler to provide an adjustable low level signal sample for counters, scopes, analyzers, etc.. **$442.00**

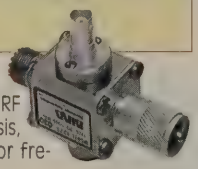
TABLE 1 Standard BIRD Elements

Frequency Bands (MHz)

Power Range	2-30	25-60	50-125	100-250	200-500	400 1000
5 watts	—	5A	5B	5C	5D	5E
10 watts	—	10A	10B	10C	10D	10E
25 watts	—	25A	25B	25C	25D	25E
50 watts	50H	50A	50B	50C	50D	50E
100 watts	100H	100A	100B	100C	100D	100E
250 watts	250H	250A	250B	250C	250D	250E
500 watts	500H	500A	500B	500C	500D	500E
1000 watts	1000H	1000A	1000B	1000C	1000D	1000E
2500 watts	2500H					
5000 watts	5000H					

TABLE 2 Low-Power BIRD Elements

1 watt	Cat. No.	2.5 watts	Cat. No.
25-30 MHz	025-1	25-30 MHz	025-2
30-35 MHz	030-1	30-40 MHz	030-2
35-40 MHz	035-1	40-50 MHz	040-2
40-50 MHz	040-1	50-60 MHz	050-2
50-60 MHz	050-1	60-80 MHz	060-2
60-80 MHz	060-1	80-95 MHz	080-2
80-95 MHz	080-1	95-150 MHz	095-2
95-125 MHz	095-1	150-250 MHz	150-2
110-160 MHz	110-1	200-300 MHz	200-2
150-250 MHz	150-1	250-450 MHz	250-2
200-300 MHz	200-1	400-850 MHz	400-2
275-450 MHz	275-1	800-1000 MHz	801-2
425-850 MHz	425-1		
800-1000 MHz	801-1		



BIRD Variable RF Signal Samplers

Stand alone wide-range, THRULINE® RF coupling probes for spectrum analysis, RF signal observation on a scope, or frequency counting and control.

See Price List for BIRD accessory pricing ...

KENWOOD SWR/Power Meter

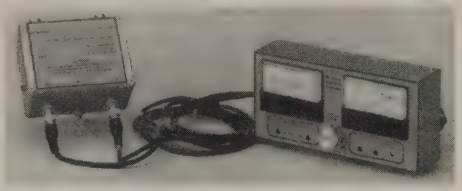
▶**SW-2100** Covers 1.8 to 30MHz. Dual meters simultaneously display RF power up to 2kW and VSWR. Ranges: 0-200W and 0-2000W Requires 30W RF for VSWR measurement. 52Ω, SO-239 connectors. 8"w x 2⅝"h x 3⅜ "d, 1.9 lbs..... **$159.95**

RF Applications, Inc.

Affordable...

High Performance & High Quality RF Power Measurement Systems

▶**P-3000 HF Power & VSWR Indicator** Microprocessor based for fast, accurate power and VSWR readings from 1.8 to 30MHz and 15 to 2950 watts, without adjustments or calibration.Three separate instruments in one: Peak Digital Power Display, VSWR Display with Alarms and 10-LED Instantaneous Power Bargraph. During high VSWR conditions a relay contact can interrupt the control line between your rig and amplifier to help reduce the chance of damage. Separate remote directional coupler may be located up to 6 ft. away. 50Ω, SO-239 connector. Requires 12 VDC @ 250mA. Display: 6½"w x 5¼"w x 2¼"d; Coupler: 4½"w x 3¾"h x 2¼"d. 6 lbs total **$299.00**

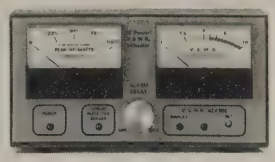


▶**P-2000A RF Power/VSWR Indicator** For HF applications from 1.8 to 30MHz and up to 2000W. It has an adjustable meter response time and uses the same remote coupler as the P-3000 unit. An adjustable VSWR and a relay are provided that can be used to disable an amplifier under high VSWR conditions.. Display: 8"x 4¼"x 2½" Coupler: 4½" x 3 ¾" x 2¼ " **$299.00**

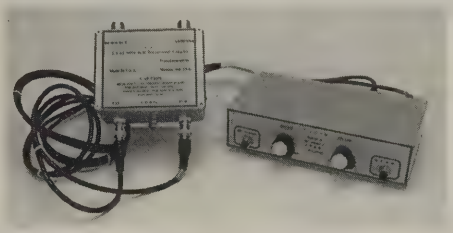
▶**P-1500 Digital RF Power & V.S.W.R. Indicator** Covers 1.8 to 30MHz, rated at 1500 watts continuous. Built-in coupler. Four digit LED display, autoranging bargraph. VSWR status lights. Requires 12V DC @ 100 mA. 4"w x 3½"h x 4"d, 4 lbs... **$219.95**

- **P-3000-P** 12V adapter for P-3000, P-100A, P-2000A & P-2000CW **$12.95**
- **P-1500-P** 12V adapter for P-1500..... **$16.95**

▶**P-100A RF Power/VSWR Indicator** Provides RF power and VSWR measurement using microprocessor technology, but with the readout of analog panel meters. Sampling the voltages on your transmission line two hundred times a second, the P-100A computes the forward peak power and VSWR. These values are used to actively drive the panel meters using pulse width modulation. The result is an easy to read display with no "bouncing needles" and without the need for VSWR calibration. A front panel control allows you to set an alarm to be triggered when the VSWR measured exceeds a predefined limit.



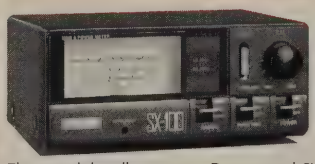
The PA-100A uses standard line sections and elements as offered by Bird Electronics® and Coaxial Dynamics®. Using a selectable 2, 4, 5, or 10:1 ratio between forward and reflected power sensors, it allows digital power and VSWR measurement over the complete range of power for which the elements are made; 455kHz through 2.3 GHz. Note: The line sections ARE NOT INCLUDED with the purchase of the unit; they must be purchased separately. 12V DC. 2½" x 4¼" x 8", 3 lbs. ...**$239.95**



▶**P-2000CW RF Power/VSWR Indicator** Employs technology developed for the company's other unique digital wattmeters, but uses an audible Morse Code interface to report the values of forward and reflected power. These values are stored during and at the end of each transmission and can be reported via CW while on the air or after the transmission. If the VSWR exceeds a preset value, the operator is alerted with the Morse" V" character, and a relay can provide control to disable a power amplifier, etc. Covers 1.8 to 30MHz, indicates 5 to 2000W and VSWR. Display 2"x4"x8" – Remote Coupler: 4½" x 3¾" x 2¼" – Weight: 4 lbs. Requires 12V DC **$249.95**

http://www/rfapps.com

▶**Match Alert™ VSWR Monitor & Alarm** Provides protection for HF transmitting systems! A microprocessor monitors antenna VSWR and provides a fast visual and electrical alarm if any of eight different dip-switch selectable VSWR presets are exceeded. Covers 1.8 to 30MHz and is rated at 3KW. A relay contact is available via a 3 ft. cable for millisecond control of an external function such as shutting down an amplifier, etc. Cast aluminum enclosure, PL-259 connectors, requires 11 to 16V DC. PL-259 connectors, 3"x4"x5" **$129.95**

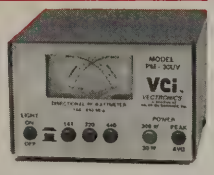


DIAMOND ANTENNA SWR/Power Meters

Five models, all measure Power and SWR with 5 to 10% of full scale accuracy. Illuminated meter, sensor switch and LED indicator. Power ratings listed below are for intermittent operation. For continuous mode (CW, FM, etc.), ratings vary with frequency. All have SO-239 connectors, except the SX-1000 which has a Type-N. The SX-600 and SX-1000 are dual band. 12VDC is required for displays. 6"w x 2½"h x 4"d, 2 lbs.

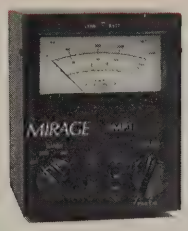
- ▶**SX-100** 1.6-60MHz, 30/300/3000W ranges..... **$149.95**
- ▶**SX-200** 1.8-200MHz, 5/20/200 ranges..... **109.95**
- ▶**SX-400** 140-525MHz, 5/20/200W ranges..... **129.95**
- ▶**SX-600** 1.8-160MHz and 140-525MHz, 5/20/200W..... **179.95**
- ▶**SX-1000** 1.8-160MHz and 430-1300MHz, 5/20/200W.. **249.95**

VECTRONICS SWR/Power Meters



▶**PM-30HF** Similar to shown. RMS or PEP forward and reflected power and SWR simultaneously. Illuminated cross-needle meter.1.8 to 60MHz, 300/3000W ranges. 5⅜"w"h x 3½"h x 5¾"d, 1.2 lbs..... **$84.95**

▶**PM-30UV UHF/VHF SWR/Power Meter** (shown) Same features as HF but covers 144, 220 and 450MHz bands..... **$84.95**



MIRAGE SWR/Power Meters

Four models, all measure RMS and peak forward and reverse power and SWR, directly. Negligible insertion loss. Remotable coupler, SO-239 connectors. Requires 9V battery, 9 to 13.6V DC, or AC adapter. Low battery indicator. 5¾"h x 4½"w x 5¾"d, 3½ lbs.

- ▶**MP-1** 1.8 to 30 MHz; 25, 200, 2000W ranges..... **$209.95**
- ▶**MP-2** 50 to 200MHz; 50, 500, 1500W ranges..... **209.95**
- ▶**MP-3** 425 to 450MHz; 5, 50, 150W ranges..... **239.95**
- ▶**MP-4** 1260 to 1300MHz; 1, 10, 100W ranges **259.95**

YAESU SWR/Power Meters

▶**YS-60** Monitors Average (CW) and Peak (SSB) transmitter output, and VSWR of antenna systems. Covers 1.6–60MHz up to 2KW with meter ranges of 20/200/2000W. 50Ω, SO-239 connectors. Requires 12V DC for meter lamps and internal op amplifier circuits. 4¾"w x 2¾"h x 3½"d, 1½ lbs **$129.95**

▶**YS-500 SWR/Power Meter** Similar to YS-60 above, but covers 140 to 525MHz, and up to 200W with meter ranges of 4/20/200W. 12V not required **$109.95**

STARTEK
FREQUENCY COUNTERS

STARTEK ATH Series Frequency Counters are Subcompact, Pocket-size units, designed for ease of use and dependable operation. The Low Cost of these instruments belies the Quality Construction and innovative features found throughout.

STARTEK counters are used to find transmitting frequencies, locate RF sources, check all sorts of transmitting equipment for operation and frequency calibration. They are used with antenna analyzers for antenna tuning and to check or monitor the output frequency of transmitters, signal generators. etc.

All *ATH series* counters have High-Speed Response and the special AUTO TRIGGER & HOLD feature, They can display and hold the frequency of a signal in less than 1/10 second. All have two MMIC amplifiers and ultra high sensitivity – less than 1 mV over most of the range. All models have anodized aluminum cabinets with machine thread screws, auto polarity power input (9-12VDC), 6 sample times, a manual HOLD switch, Ni-Cad batteries and 110 VAC adapter. Made in USA.

ATH-10 1 MHz to 1200 MHz. The Worlds least expensive counter with AUTO TRIGGER & HOLD. Excellent economy counter... **$139.95**

ATH-15 1 MHz to 1500 MHz. 2 inch, 10 segment signal strength Bar Graph, low battery indicator. **$179.95**

ATH-30 1 MHz to 2800MHz (2.8 GHz). Signal strength Bar Graph, low battery indicator, reset control and ONE-SHOT feature (single read & hold, does not allow subsequent signal to displace reading, switch selectable)..... **$239.95**

ATH-50 5 MHz to 2800 MHz (2.8GHz). Has HIGH IMPEDANCE input (1 megohm) from 5 Hz to 50 MHz that can be used with probe without excessive circuit loading. Also Bar Graph, low battery indicator, ONE-SHOT and reset control. This compact model does more than most bench counters **$289.95**

OPTION HST-15 High accuracy option. ±0.2 PPM TXCO timebase, 18-40°C. You may order Any ATH series counter with this option installed..... additional **$100.00**

BAND PASS FILTERS Four filters available to extend readability distance: **LP-60** DC-60MHz; **BP-150** 130-500MHz; **HP-400** 400-1500MHz; **HP-800** 800-2000MHz.....each **$ 49.00**

STARTEK ACCESSORIES - include a Zipper Case, various antennas, probes, Band Pass Filters, vehicle power adapter, etc. See Price list for complete listing.

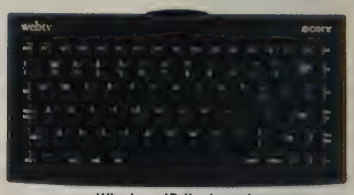
For more technical info:
STARTEK Help Line: (954) 537-5577

Order Toll Free: 1-800-558-0411
Same Day Shipment • Use your Credit Card

SONY webTV

- *Internet & World Wide Web Access*
- *Send & receive E-Mail ... More!*
- *Connects to TV & Phone Line*

Internet Terminal and Remote Controller



Wireless IR Keyboard

SONY WebTV is not aimed at the computer user. It provides easy access to the Internet through your family TV via WebTV™, a service of WebTV Networks, a subscription-based online service. The monthly subscription fee is a flat $19.95 per month with no hourly charges.

It's simple to use and no PC or PC experience required! The affordable set-top Internet Terminal which contains a built-in 33.6 kbps V.34bis modem quickly connects to your family TV set through the audio/video inputs or via RF adapter and to a standard telephone line.

No configuration, no software loading! It is controlled by its own an Infrared Remote Controller which allows full operation of WebTV. An optional full-sized wireless Infrared Keyboard is available for convenient armchair operation, or a standard PC keyboard can be plugged in.

During operation, the terminal presents a selection menu on your TV screen that acts as a front end to the World Wide Web. With a few clicks of the IR remote control, you can navigate to the site of your choice. Internet uniform resource locators (URLs) can be input directly as well. Users without the optional keyboard can call up a URL on-screen with the press of a button. An LED indicator lights up to tell you that you have an unread e-mail message waiting.

Each household account can have up to five users, each with a personal e-mail address, password and "favorites" list, or site bookmarks. The **SurfWatch™** feature gives parents the ability to block or control their children's access to objectionable Web sites and prevent them from receiving unsolicited e-mail.

The WebTV terminal contains a WebTV Port expansion port for future accessories including printers, cable modems or disk drives and other storage devices. An ISO-compliant Smart-Card Slot lets you insert "smart cards" for present and future information and financial transactions involving credit cards, cash cards and ATM. Supports MIDI and RealAudio™ embedded audio files. The Flash ROM auto-update feature keeps the WebTV browser current.

Standard Accessories: Remote with multibrand TV control and 10-digit keypad, video/audio cable, S-video cable, phone cable, phone splitter, 2AA batteries, power cord, manual.

Dimensions: 11"w x 1⅞"h x 8¼"d, 2.8 lbs.

INT-W100 Terminal w/Remote **$329.95**
RM-KW100 Wireless Keyboard..... **79.95**
RFU-W100 RF Adapter **49.95**

ROSETTA laboratories WiNRADiO World Band Radio for your PC

Plug-in Receiver Card

Screen Display

The WiNRADiO package contains a Receiver Card, Software, Handbook and an indoor antenna.

Receiver • A PC card that simply plugs into a slot in the motherboard of your IBM compatible computer to turn it into a sensitive wideband receiver with awesome features and powerful scanning options. The card contains the entire microprocessor controlled receiver with connectors for an antenna and an external speaker or headphones.

Software • The software package contains a Windows program with impressive graphics of an actual receiver front panel with readout, labels and controls. Using the keyboard or mouse, WiNRADiO can be operated exactly like a professional radio receiver with features found on high quality equipment. Includes on-line help and a DOS command-line program.

Handbook • The handbook provides an introduction to WiNRADiO and radio scanning, with a start-up list of interesting stations to try including NASA space program frequencies. Also contains interfacing information needed by programmers to create their own WiNRADiO applications, if desired.

Technical Specifications

Receiver Type: PLL-synthesized, triple conversion superhet.
Frequency Range: 500kHz to 1.3GHz (Cellular Blocked)
Tuning Steps: 1kHz to 1 MHz
Modes: AM, FM-W, FM-N, SSB
Sensitivity: 1uV (nominal
Audio output: 200mW into 8Ω load

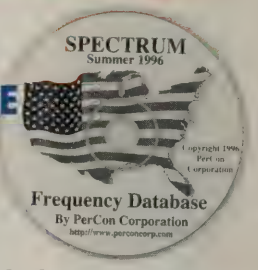
$639.95

System Requirements

IBM PC compatible with 386 processor or higher • DOS 3.3 or higher, or Windows 3.1 or higher (including Windows 95) • 640kB RAM (4MB recommended for Windows uses) • Vacant slot for 16-bit interface card • Speaker or headphones with standard 3.5mm stereo plug.

SPECIAL!
$20.00 Savings!

SPECTRUM FCC DATABASE CD ROM
List $29.95



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▶**Pocket REF - 2nd Edition** Updated or vastly expaned sections. Now 544 Pages! Chapters on air and gas, carpentry, chemistry, computers, electricity, math, hardware, plumbing, steel and materials surveying, welding, general information and more. Too many to mention! 100's of tables & charts, 1000's of conversions. Everthing that you need to know! **$9.95**

▶**Pocket PCREF-6th Edition** A concise PC computer reference. 544 pages of hard to find information on IBM PC's – ASCII Codes; Numeric Prefixes; Video Standards; Decimal/Hex Conversions; Printer Codes; PC Error Codes; I/O Pinouts; PC Memory Maps; Address Maps; Modem Commands & Switch Settings; Scan Codes; Floppy Drive Types; CPU Types; DOS History, 3500 phone numbers..... **$14.95**

BK PRECISION
MAXTEC INTERNATIONAL CORP.

▶**B&K 390 Test Bench™ (left)** A multi-function multimeter. with AC/DC Voltmeter, AC/DC Ammeter, Ohmmeter, Capacitance Meter, 500kHz Frequency Counter and Temperature meter in one package. 0.1% DCV accuracy; Analog bargraph; Auto/manual ranging; 4,000 count LCD display; Relative mode; Min-max average; Memory; Audible continuity; Data hold. 7½" x 3½" x 1½", 17 oz. **$134.95**

▶**B&K 2860A Digital Multimeter (center)** Rugged construction with water resistant case. AC/DC Voltmeter AC/DC Ammeter (20A); Ohmmeter; Audible Continuity Check; Diode Test. 3½ digit, 0.8" LCD. 6⅞" x 3⅝" x 1¼", 12 oz. **$84.95**

▶**B&K 2704A Digital Multimeter (right)** Handy for the tool kit! Measures: DCV 200mV-1000V; ACV 200mv-750V; DCand AC current to 10A; Ohms, 0.1Ω to 20MΩ; Capacitance to 20uF; and Transistor gain. 5¾ " x 3" x 1¼", 13 oz..... **$49.95**

▶**B&K 878 Dual-Display LCR Meter with Statistical Functions** Excellent for sorting parts. Displays measured value and Q or dissipation factor and remembers minimum and maximum values while keeping a running average of tested component values. Relative mode displays difference between the measured and reference component values. Tolerance mode "beeps" to indicate measured components outside a 1%, 5% or 10% tolerance around a reference value. Selectable, 120Hz or 1kHz. 1½" x 3½" x 7½", 14 oz. .. **$219.95**

▶**B&K 815 Parts Tester (center)** Tests transistors, SCRs, diodes, LEDs and batteries under actual load conditions. Capacitance 0.1pF-20mF; Resistance 0.1Ω-20MΩ, 26 ranges. Big 0.8" LCD display. 6⅞" x 3⅝" x 1¼", 12 oz. **$84.95**

▶**B&K 4011 5 MHz Function Generator (right)** Generates sine, triangle, square, pulse and ramp waveforms. TTL and CMOS Pulse outputs. 9¼" x 3¼" x 11¼", 6 lbs..... **$239.95**

***General Purpose Power Supplies* – Lab Quality**

Reverse polarity, overload thermal and short circuit protected. Tight regulation, low ripple. Conservatively rated for continuous operation at maximum rating.

▶**Model 1686 High Current (left)** Output: 3 to 14VDC @ 2.5 to 12A. Continuous 12A duty at 13.8V DC without overheat. Reverse polarity, overload and short circuit protection. Current limiting. Connect two in parallel to double the current, or two in series to double the voltage. Voltage and current limiting adjusments. 5½" x 5¾" x 12", 12 lbs **$169.95**

▶**Model 1651 Triple Output (right)** Output: Two 0 to 24 VDC @ 0.5A; One fixed 5V @ 4A, continuous. Independent tracking, adjustable current limiting. Short circuit, overload, reverse polarity protected. 3¾" x 9½" x 7½", 11 lbs **$359.95**

▶**Scopes and Counters** For design, service or hobby. Scopes ranging from a 20MHz analog dual-trace unit to a versatile digital storage model. Multi-function counters built for continued high accuracy over a wide range of frequencies.

See the Price List for the complete B&K listing

K-COM Telephone RF Interference Filters

Cure telephone RF interference in the most irritating cases even when dealing with transmitters with full legal power output. Use any number of filters with no adverse effect on telephone performance. Fully assembled, with complete installation instructions.

▶**RF-1** For single line equipment including wired and cordless telephones, answering and fax machines, modems, etc..Has standard RJ-11 modular connectors..... **$16.95**

▶**RF-1/2-line** The correct filter for two-line telephone sets. and multi-line multi-station electronic key phone systems in business environments **$22.95**

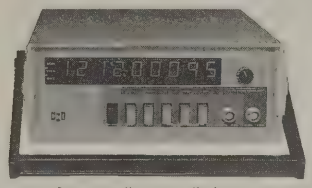
▶**RF-1/coiled** Recommended when RFI enters through the coiled telephone cord between base and handset..... **$22.95**

▶**RF-2** Hard-wired, provides a wide range of installation options to add RFI rejection at a variety of physical and electrical locations in the system wiring. Inside phone jacks, behind wall mounted telephones, security systems, etc..... **$10.95**

DIGIMAX Frequency Counters

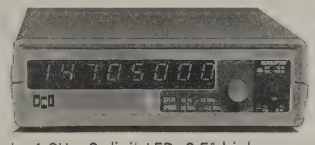
Delivering Maximum Performance & Accuracy – 50Hz to 1.2 GHz

▶**D-1200/D-612 Frequency Counters** Ideal for solving difficult bench and field problems involving complex PLL, TV Tuner, VTR, and computer circuits. – plus, they can help to keep your QSOs on the correct frequency! Both models meet FCC land mobile, broadcast, and telecommunications specs. 9-digit LED, 0.5"-7 segment display, leading zero suppression for error-free readings. Built-in 10 MHz, 0.1 PPM (20°-40°C) 10MHz proportional oven. For audio tones, the built in audio multiplier in the D-1200 will resolve 1/1000Hz in 10 seconds, 1/100Hz in 1 second., and 1/10 Hz in 0.1 second. The. D-612 resolves 1 Hz in 1 second.and 1/10 Hz in 10 seconds. The D-1200 also has a prescale input sensitivity control and the D-612/D-1200 includes a 1.2 GHz prescaler. Both operate from exernal. 8 to-14.5V DC @ 200-500ma., 6 internal "C" cells, 115V with opt.l AC adapter or opt.rechargeable battery. 3¼"h x 8½"w x 9"d. D-612 does not include carrying handle



▶D-612 **$229.95** • ▶D-1200 **$269.95**

▶**D-500/D-510A Frequency Counters** Excellent accuracy and high reliability, make these units the perfect choice for the bench, tool box, or ham shack. The D-500 covers 50Hz to 512 MHz and will resolve from 1 Hz to 50 MHz and 10 Hz to 500 MHz; D-510A covers 50 Hz to 1 GHz. and will resolve 10 Hz to 1 GHz. 8 digit LED, 0.5" high seven segment display, leading zero suppression for error-free readings. Contains a 1 PPM (17° to 35°C) TXCO time base. Operates from external 8-14.5V DC @100-250ma., 115V with optional AC-12 adapter or optional rechargeable battery pack. 1½"h x 5"w x 5¼"d.



▶D-500 **$139.95** • ▶D-510A **$159.95**

Optional Accessories

▶**AC-12** 12V DC Adapter..... **$8.95**
▶**B-12** Dry Cell Holder and switch for D-612 ..... **$10.95**
▶**BAC-5** Nicad Battery Pack for D-500 & D-510A..... **$29.95**
▶**BAC-12** Nicad battery Pack for D-612/D-1200 ..... **$34.95**
▶**RF-500X** In-line RF Sampler, 250W max..... **$39.95**
▶**T-1200** 21" BNC Telescopic Antenna **$8.95**

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Maximum performance for the budget-conscious amateur - that's ADI's 2m/70cm AT-600. Easy to learn!

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- Separate VHF/UHF volume & squelch controls for each band
- Alphanumeric, Frequency or Channel display
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- Manual or Automatic Tx offset

Loaded with features! A true dual bander!

AT-201/2m AT-401/70cm

NEW!

- 40 memories store any offset or tone
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- Tx/Rx 430-450 Rx expands to 400-480MHz (AT-401)
- Cloning function
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- Manual or automatic Tx offset
- CTCSS encode & decode included
- Dual Frequency Watch
- Call Channel
- Frequency or Channel display
- Backlit LCD & keypad
- MARS/CAP capable
- DTMF paging included
- 2.5w & 5w versions available
- Small! 5.5" x 2.0" x 1.3"

Still available: ultra-low priced AT-200/2m & AT-400/70cm. Ask your dealer for details.

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- With earphone jack, for noisy conditions

SPM - 200 / 201
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- Light weight earphone without headband
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- Lightweight integral microphone and earpiece. Does not require headband!
- Convenient PTT clip for lapel or belt
- Flexible speaker tube connected to the earphone for hands-free operation

Power Station

3,6,9,12V DC / Power Supply + Battery

SB - 752

1. LED Charging Indicator
2. DC 3-6-9v Selector Switch
3. Charge Input Cigarette Socket
4. DC 3-6-9v Output Connector
5. Voltmeter
6. LED Power "On" Indicator
7. Main Power On/Off Switch
8. DC 12v Output Cigarette Socket
9. Output (+ -) Terminal-15A

7 lb. 8"H x 7"W x 4.5"D
AC adapter & quick charging car cable included.

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SPM - 500 / 501
- Throat microphone for highest background noise isolation
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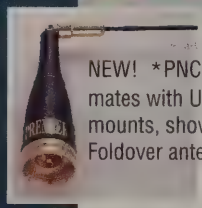
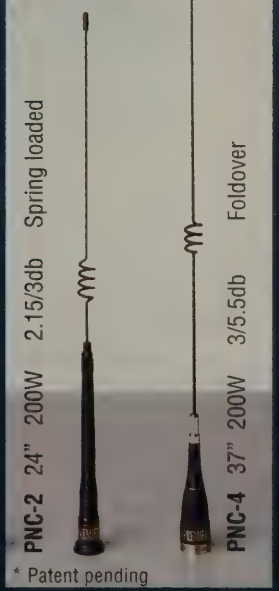
- Two separate PTT switch lacations for easy access. 1)Clip on for lapel or belt. 2)Tiny PTT with velcro fastener for finger tip use

HT Antennas

Mobile Antennas



NEW! *PNC CONNECTOR-mates with UHF & NMO mounts, shown as PNC-4 Foldover antenna



* Patent pending

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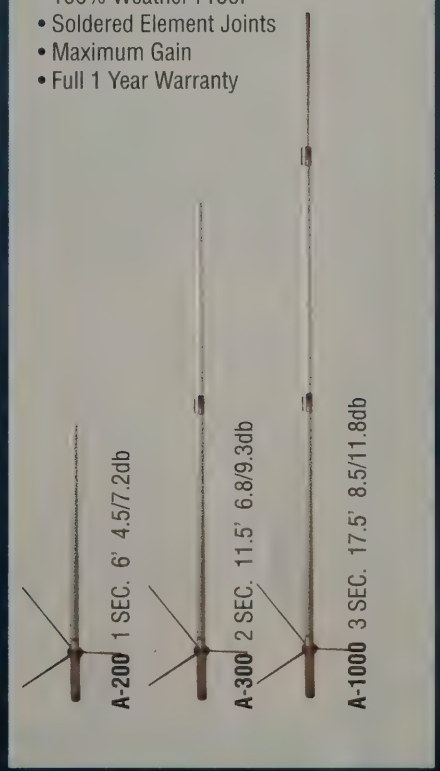


DAVIS Computerized Weather Stations

Gives Wind, Temperature, Rain and Barometric Trend, Humidity, Dew Point, Alarms. Download and Graph Data on your PC – remote with Modem Interface. Central Junction Box for Easy Hook-up, Modular Design. Perfect for NOAA Weather Monitoring Stations.

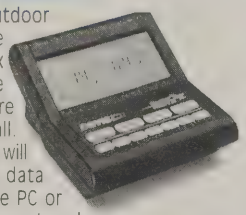
▶Model 7440 Weather Monitor II

Top-of- the- line Personal Weather Station that combines all weather monitoring functions and a 12 or 24 hour clock with date, into one package and shows them on an easy-to read, back lit, 1⅞" x 4⅞" LCD display. ***Temperature:*** Indoor, from 32°F to 140°F. ***Wind:*** Wind Direction in 1° or 10° increments • Speeds to 175 mph • High Wind Speed • Wind Chill to –134°F • Low Wind Chill. ***Barometer:*** Barometric Pressure (with memory recall) • Trend arrow. ***Humidity:*** Inside Humidity 0% to 95% (outside optional) • High and low Humidity. ***Alarms:*** Temperature, Wind Speed, Wind Chill, Humidity, and Time. Barometric trend alarm for change >02, .04, or .06 inches of mercury in an hour. ***Other Features:*** Compact, just 5¼" x 5⅞" x 3" • Scans selected functions • Metric or U.S units • AC operation with battery back-up • Usable on desk, shelf or wall **$349.95**

External Temperature/Humidity Sensor Allows the 7440 Weather Station to measure outside humidity, dew point and temperature. Comes with 40 ft. cable .. **Model 7859 $109.95**

Rain Collector II Allows the 7440 Weather Station to read both daily and accumulated rainfall in 0.1" increments. Comes with 40 ft. interconnecting cable **Model 7852 $69.95**

▶Model 7425 Weather Wizard III



Monitor both Indoor and Outdoor weather conditions at the touch of a button on the 1⅞" x 4⅞" LCD display. With the optional Rain Collector, measure daily and accumulated rainfall. Optional Weatherlink software will process and store weather data through and IBM® compatible PC or Macintosh®. With anemometer, external temperature sensor, junction box, cables and AC adapter.

Temperature: Indoor, 32°F to 140°F • Outdoor, –50° F to 140° • High and Low Temperature. ***Wind:*** Direction in 1° or 10° increments • Speeds to 175 mph • High Wind Speed • Wind Chill to –134°F • Low Wind Chill. ***Alarms:*** Temperature • Wind Speed • Wind Chill • Time. ***Other:*** Compact, just 5¼" x 5⅞" x 3" • Scans selected functions • Metric or U.S units • AC operation with back-up • Desk, shelf or wall mt **$169.95**

▶Model 7415 Weather Wizard IIS™

All features of the Weather Wizard III, except it does not indicate Wind Direction, and the LCD display is smaller **$129.95**

Rain Collector II Allows the 7420 and 7415 to read both daily and accumulated rainfall in 0.1" increments. Comes with 40 ft. interconnecting cable ..... Model 7852 **$69.95**

▶Model 7400 Perception II

Monitors indoor climate, looks similar to Weather Wizard III. ***Functions:*** Temperature 32°F to 140°F • High/Low Temperature Barometric Pressure w/Memory Recall • Humidity • Highs and Lows recorded with time and date • Alarms for temperature, humidity and time • Barometric alarm for change >.02, .04, or .06 inches of mercury/hour • 12 or 24 hour clock with date • Back lit display **$129.95**

40 ft. Extension Cables

▶4-conductor, use with the anemometer, external temperature sensor, rain collector, or weatherlink **Model 7876 $18.00**

▶6-conductor, for use with the external temperature and humidity Sensors, only ..... **Model 7878 $22.00**

▶ WEATHERLINK® Software

Link Perception, Weather Wizard, or Weather Monitor to an IBM® compatible or Macintosh. Create graphs, calculate average conditions, generate summaries, analyze trends, more.

See DAVIS in the Price List

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***Global Positioning Satellite* (GPS) brings Satellite Navigation within reach of everyone! For navigation, hunting, etc. – tells you where you are, and how to get back. Interfaces with GPS capable TNCs for APRS packet operation. Check location of transmitter sites, repeaters and get data for satellite and moonbounce work. Calculates the phase of the moon, and sunrise/sunset for anywhere on earth!**

GPS2000 GPS4000 Meridian XL

Magellan GPS-2000 Satellite Navigator

• Four easy-to-understand graphic navigation screens • Displays distance to go, direction, time to go, speed, course correction and other data • 100 user-entered landmarks • One reversible route of up to 29 legs • Displays position information in Latitude/Longitude of UTM coordinates • Crisp, backlit graphic display • Water proof, rugged and durable • Highly sensitive built-in antenna • Up to 17 hours of continuous battery life on 4-AA alkaline batteries • Hand-held, light weight, only 10 ounces and 6.6"h x 2.3"w x 1.3"d • 14°F to 140°F operating temperature range • Shown with opt. swivel mount **$199.95**

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• Six graphic navigation screens • Moving map updates your positions as you travel • 200 saved landmarks and five reversible routes • Calculates sunrise and sunset times • Full-featured track plotter with adjustable scale, landmark, Pan & Scan and "Go To" features • Displays heading (HDG), bearing (BRG), distance to go (DST), time to go (TTG), speed (SPD), course correction (XTE) and other data • Ability to attach a 20-character message on up to 25 landmarks • Landmark map projection and nearest landmark search • Summary and trip odometer • Two position screens display information in Latitude & Longitude, UTM, OSGM, Swiss, Irish, or user defined grid system • Crisp, backlit scratch-proof display • Highly sensitive built-in antenna • Up to 17 hours of continuous operation on 4-AA alkaline batteries (not supplied) • Pocket size, 6.6"h x 2.3"w x 1.3"d • Light weight, only 10 ounces • 14°F to 140°F operating temperature range **$249.95**

Magellan Meridian XL

Six, customizable, easy-to-follow graphic navigation screens • WideScreen backlit display with ultra-large, bold characters for easy viewing • Detachable antenna, large keys and non-skid rubber grips • Position and waypoint information displayed in LAT/LON and TDs • Full-featured track plotter with adjustable scale, waypoint information, Pan & Scan and "Go To" features. • Displays distance to go, bearing, COG, time to go, SOG, XTE, VMG and other data • "Go To with MOB function • 200 user entered waypoints with 9 selectable icons • Waypoint projection and nearest waypoint search • Five reversible routes of up to 15 legs • Sunrise/sunset/lunar calculations • External alarm support • Ships with mounting bracket, carrying case, 10-35VDC power/data cable, lanyard strap • Up to 6 hours continuous of operation and 24 hours in battery saver mode, on 3-AA batteries. • Rugged,. durable, waterproof • Light weight, 14 oz and 6.13"h x 3.5"w x 1.3"d **$299.95**

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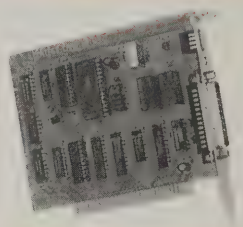
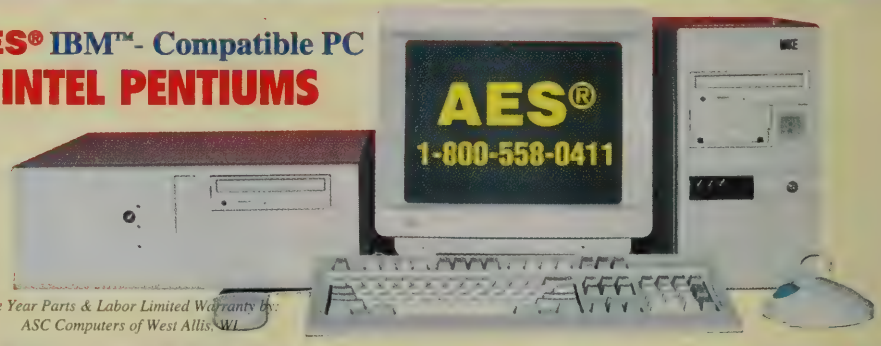
W9XT Contest Card for IBM™ PC and Compatible



▶This 5" x 4½" plug-in card occupies a single 8-bit PC slot, does voice recording and playback, and CW keying. Enough memory to store a full 16 seconds of voice which can be partitioned between 4 messages of different lengths for playback on command. The microphone input is sampled at an 8-kHz rate resulting in audio that is high quality and natural sounding. The card is non-volatile and does not use any disk space. On CW, the card frees up the PC port, and uses a relay which allows operation with positive or negative-keying. Works with all rigs and is compatible with popular logging programs. FCC Class-B certified..... **$139.95**

AES® IBM™- Compatible PC INTEL PENTIUMS



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- 1.6 Gigabyte Hard Drive
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- 8x CD ROM Drive
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NOW 100 WATTS OUTPUT ON 6M AND HF!

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- General coverage receiver
- Excellent price—superior value. You get more for less from Alinco!

ALINCO AUTOMATIC ANTENNA TUNER EDX-2 NOW AVAILABLE!

Equip your DX-70 (or other HF Radio) with the Alinco EDX-2 Automatic Antenna Tuner. Quickly tunes any antenna from 8 to 80 feet, for any band from 10 through 160 meters (minimum 40 foot wire antenna required for 160 meter use). Perfect for base, mobile or marine use and areas where space is restricted. Control cable plugs directly into the popular Alinco DX-70 mobile/ base HF radio; usable with other HF units. An outstanding value at less than $350 MSRP.

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- Front panel variable voltage output (1-14V DC)
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- Quiet internal cooling fan
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- Perfect for builders and experimenters

Simple ▪ Clean ▪ Dependable

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Versatile, affordable and packed with popular features

- Alphanumeric Display – up to 7 characters – English or Cyrillic letters
- 51 memory channels, each capable of "odd-split" and different CTCSS tones for RX & TX
- Large display and controls for easy mobile operation
- Aircraft Band Receive with automatic shift to AM mode
- Multi-national tone bursts (1750, 1450, 2100 and 1000 Hz)
- CTCSS encode capability
- CTCSS decode requires optional EJ-20U
- Channel number display
- Time Out Timer
- Selectable Scan Modes, busy channel or timed includes scan-skip lockout
- Cable cloning

DJ-191T TWO METER HANDHELD

Two Meter action and enjoyment, no matter where you are, or where you travel, across the country or across the ocean!

- 41 memory channels
- Easy keypad direct frequency entry
- 9 Autodial phone-patch memories
- Illuminated 16 button keypad AND display
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- Can also be used for packet radio
- Choose DJ-191T (1.5 watts TX) or DJ-191TH (5 watts TX)
- Receives: 135 - 173.995 MHz
  Transmits: 144 - 147.995 MHz
- Mars-CAP modifiable (permits required)

Plus many more advanced functions at no extra cost!

DR-150T TWO METER FM BASE/MOBILE WITH AIR AND UHF RECEIVE

A Two Meter Transceiver With Many "Extras"

- Receives 2 Meters, 440-449.995 MHz and Aircraft Band
- 100 memory channels
- Two Separate VFOs
- Long Tone Zero (LITZ) Emergency Alert
- Scan Modes: Program, Priority or Channel Scope Sweep Scan
- Clones over the air
- Alinco's Channel Scope℠ Band Activity Display
- Easy Access Autodial phone patch memories (up to 15 digits each)
- 9600 bps packet ready with dedicated input port
- Selectable Power output: 50/25/10 Watts
- Direct frequency entry from the DTMF microphone
- Time-out timer
- Tone scan with optional EJ-20U

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DR-610T DUAL BAND MOBILE/BASE VALUE LEADER

Full-featured, easy to operate, dependable performance.

- Expandable to 240 memory channels–5 memory banks!
- Detachable remote-mount face plate
- Versatile operation–VHF/UHF, UHF/VHF, VHF/VHF, UHF/UHF
- Internal duplexer at no extra cost. One easy antenna connection.
- Long Tone Zero (LITZ) Emergency Alert
- Aircraft band receive
- Includes CTCSS encode PLUS European tone bursts
- 9600 bps packet ready!
- 50/10/5 watts/2m 35/10/5 watts/440
- Alinco's Channel Scope℠ graphic band activity display
- RX - VHF 108 to 173.995 MHz, UHF 420 to 470 MHz
- MARS/CAP Modifiable (permits required)
- Cross-band repeater function

DJ-G5TH DUAL BAND HT PACKED WITH FEATURES!

The 2 Meter/440 HT that's ready to travel the world.

- 200 memory channels (100 VHF, 100 UHF)
- 5 watts output
- Large illuminated display and backlit keypad
- Versatile operation – VHF/UHF, VHF/VHF, UHF/UHF
- Alinco's Channel Scope℠ graphic band activity display
- "Clones" over the air!
- Includes CTCSS encode/decode PLUS European tone bursts
- Aircraft band receive
- 2 PTT buttons, assign one for each band or high power/low power transmit
- MARS/CAP modifiable (permits required)

Plus many more advanced functions at no extra cost!

DJ-S41T POCKET SIZE 440 MHz FUN!

Big performance – tiny price

- TX 425-449.995 MHz
- Large illuminated display
- 21 memories
- Pocket/purse size – only 2 1/6" x 4" x 1 1/10", 6.5 oz.
- Runs on 3 AA cells or optional NiCads
- Flexible, pivot antenna
- CTCSS encoding standard
- Offset up to 15.995 MHz
- Programmable APO
- Battery save
- Alarm and alert functions
- Belt clip, carry strap & more!

DR-605T DUAL BAND MOBILE/BASE ECONOMY CHAMP

Full 2 meter/440 performance at an affordable price!

- 100 memory channels including cross-band memories
- CTCSS encode PLUS European tone bursts (1450, 1750 and 2100 Hz)
- With the optional EJ-24U CTCSS Tone Decoder Unit can operate in "tone squelch" receive AND search (tone scan) for a specific CTCSS tone in a received signal
- 9600 bps packet ready with dedicated terminals
- Internal duplexer – one easy antenna connection
- Cross-band repeater function
- Large controls, easy to operate, easy to program
- RX - VHF 136 to 173.995 MHz, UHF 420 to 470 MHz
- TX - VHF 50 watts, UHF 35 watts
- MARS/CAP modifiable (permits required)
- Time-out timer

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CQ Books and Videos

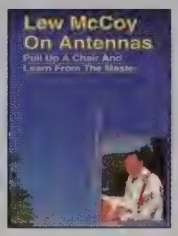
The Quad Antenna

Hams love antenna books and this book is no exception. Written by world renowned author Bob Haviland, W4MB, The Quad Antenna is the authoritative technical book on the design, construction, characteristics and applications of Quad Antennas. Discover how to easily build a quad antenna for your station that will help you fill your logbook with rare DX that you have only dreamed about before. **$15.95**

The Packet Radio Operator's Manual

This book is written by CQ columnist and Amateur Radio Packet authority Buck Rogers, K4ABT. An all new introduction and guide to packet operation, it is the perfect single source, whether you're an advanced user or just starting out. Learn about packet radio without all the technical jargon. Also included are detailed hookups for dozens of radio/packet controller/computer combinations, making this book the definitive resource for the active packet user. **$15.95**

McCoy on Antennas

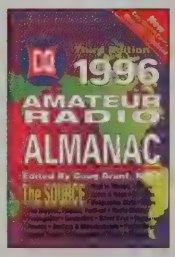


CQ magazine author and acclaimed authority on antenna theory and design, Lew McCoy, W1ICP, has written a truly unique antenna book that's a must for every amateur. Unlike many technical publications, Lew presents his invaluable information in a casual, non-intimidating way. It's not just an antenna handbook, but a wealth of practical antenna advice for the ham! **$15.95**

The Vertical Antenna Handbook

Take advantage of the 20 years of research and practical experience of naval communications engineer Capt. Paul H. Lee, USN(ret), N6PL. Learn the basic theory, design, and practice of the vertical antenna. Discover easy construction projects such as a four-band DX vertical or a broadband array for 80 meters. Ever wonder how to build a functional directive vertical system? Paul Lee can get you started today! **$9.95**

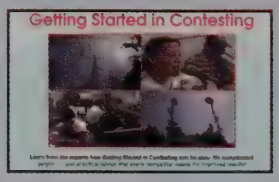
1996 CQ Amateur Radio Almanac, 3rd Edition



If you're looking for information about ham radio, it's in the *1996 Amateur Radio Almanac*. This Sourcebook is filled with over 500 pages of facts, tables, graphs, maps, and other information in an easy-to-read format. Here's just a sample of what's new this year: Amateur Radio Around the World, Expanded Coverage of Internet Computer Services for Hams, New General Class License Question Pool, and Amateur Radio Club Listings. The list goes on! **$19.95**

Get Started with CQ's Video Library!

Getting Started in Contesting



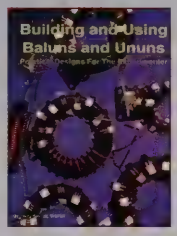
For the newcomer to contesting or an experienced veteran, this video is for you! You'll get advice and operating tips from some of contesting's most successful competitors. Here's just a sample of what you'll see: what contesting's all about, tips for beginners, how to compete from a small station, operating secrets from the "pros", live QSOs from world class stations, VHF/UHF contesting. **$19.95**

Getting Started in VHF

This is the ideal introduction to operating on VHF. See demonstrations of the latest radios. Also, learn about repeater usage as well as the more exotic VHF operating modes. Whether you are interested in packet radio, satellite operation, or using your local repeater, this is your video!

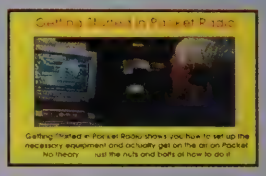
$19.95

Building and Using Baluns and Ununs



Written by world-renowned expert Jerry Sevick, W2FMI, this volume is the definitive source for his latest practical information and designs on transmission line transformer theory. W2FMI has unraveled the technological mysteries with designs that are simple and work. Discover new applications for dipoles, yagis, log periodics, beverages, antenna tuners, and countless other examples. **$19.95**

Getting Started in Packet Radio

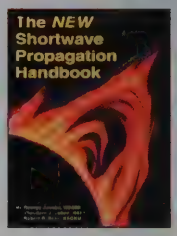


This video will help de-mystify the fascinating but sometimes confusing world of packet radio. Learn how to get started using your computer on the radio. Included are step-by-step instructions on making packet contacts and using packet bulletin boards, networks and satellites. **$19.95**

Getting Started in Amateur Satellites

Learn how veteran operators set up their satellite stations. Learn how to locate and track ham satellites with ease. Watch operators access satellites and contact far ranging countries around the world. This video is filled with easy to understand advice and tips. **$19.95**

The NEW Shortwave Propagation Handbook



CQ has been a leader for nearly 50 years in providing timely and invaluable information on HF propagation. Thousands of radio amateurs were helped by our first propagation handbook. Now, you can take advantage of the information and techniques presented in this completely updated and revised volume. It's certain to be one of ham radio's classics—and one that will immediately increase your enjoyment of the HF spectrum.

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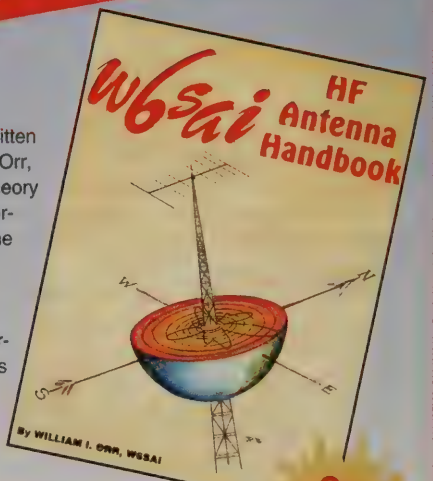
The All-New W6SAI HF Antenna Handbook!



This is an antenna handbook unlike any other— written by one of ham radio's most respected authors, Bill Orr, W6SAI. Rather than filling nearly 200 pages with theory and complicated diagrams, CQ has produced a thoroughly practical text for any antenna enthusiast. The *W6SAI HF Antenna Handbook* is jam-packed with dozens of inexpensive, practical antenna projects that work! This invaluable resource will guide you through the construction of wire, loop, yagi, and vertical antennas. You'll also learn about the resources and tools available to make your future antenna installations easy-to-build with world-class results. Don't miss out. Order your copy today!

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HERE'S WHAT THE EXPERTS HAVE TO SAY ABOUT AZDEN.

PCS-7000H 2-METER MOBILE

(QST 1/95) ..."With its ample heat sink, the PCS-7000H ran cool, even during long-winded conversations at the 50W level. The Azden is the only radio in this group to offer a two-year warranty... This radio receives as well as it transmits."

PCS-7500H 6-METER MOBILE

(73 8/94) ..."its handheld PTT microphone has a solid feel and produces solid transmit audio. Its receive audio is full, loud and undistorted, and sounds better than many mobile rigs. And the rig is beautiful... maybe the only game in town for a moderately priced 6-meter FM rig." ***(Radio Fun 10/94)*** ..."The Azden PCS 7500H exceeds my performance expectations! It's a real bargain in today's ham equipment marketplace and every 7500H owner I've talked to agrees with me!"

PCS-7200 220MHz MOBILE

(73 3/95) ..."An excellent entry-level radio for newcomers and oldtimers alike. With 25 watts output power and sensitive, selective receiver, it's a 'workhorse' radio that will serve a variety of needs."

AZ-61 6-METER HANDHELD

(QST 3/95) ..."With the AZ-61, Azden brings the convenience of an H-T to the 6-meter FM World... The design is rugged and Azden backs the durability with a two-year warranty (unique in the amateur equipment market)... The AZ-61 was a pleasure to use. The radio performed well in all applications: mobile, portable, and home." ***(CQ 1/94)*** ..."I was pleasantly surprised to hear just how good it sounds, both on receive and to the other operator on transmit. The ability to program so many different aspects of the radio also makes it quite attractive... Did I say that I enjoy using the radio? I certainly do! You will also enjoy owning one of them." ***(73 11/93)*** ..."This IS an advanced-featured handheld...I like it. I like the Azden AZ-61 6-meter a lot."

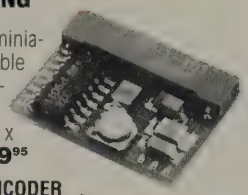
AZ-21A 2-METER HANDHELD

(CQ 2/95) ..."The reception of weak signals was outstanding with this unit... It is certainly one of the best I have ever heard... From a performance standpoint, I would give the AZ-21A a very high rating."

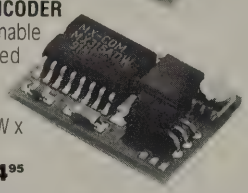
PCS-9600D VOICE/DATA TRANSCEIVER

(QST 5/95)..."Putting it simply, the PCS-9600D is an outstanding transceiver. In fact, it is the only single-mode base/mobile rig that we've tested that is truly 9600-bit/s ready... The Azden PCS-9600D offers the best of both worlds. It's a capable 440-MHz voice rig and a true "9600-baud ready" packet transceiver."

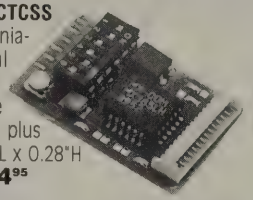
NORCOMM™ TONE SIGNALLING



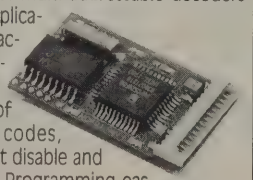
▶ **NC-101 ENCODER** Micro-miniature CTCSS Encoder, field tunable to any of the CTCSS tone frequencies between 67Hz to 254 Hz. 5 to 15VDC. 0.60"W x 0.80L x 0.15H ***NorFax™ #5040***..... **$19.95**



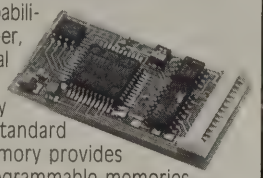
▶**NC-104 PROGRAMMABLE ENCODER** A sub-miniature, field programmable CTCSS Encoder unit for limited space. Provides the standard 37 EIA CTCSS tones plus 69.37, 97.4 and 205.5 Hz. 7 to 24VDC. 0.625"W x 0.80"L x 0.170"D ***NorFax™ #5150***..... **$24.95**



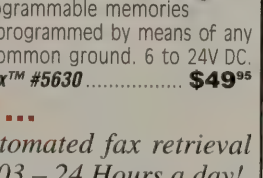
▶**NC-106 PROGRAMMABLE CTCSS ENCODER/DECODER** A sub-miniature crystal controlled digital unit. Field programmable with dip switches providing any one of the standard 37 CTCSS tones plus 97.4Hz. 6-24VDC. 0.85"W x 1.35"L x 0.28"H ***NorFax™ #5150***.....**$54.95**



▶**NC-401 TOUCH-TONE® DECODER** A unique micro-miniature unit combining two distinct multi-addressable decoders for control of remote or local applications. Decodes all 16 DTMF characters with an address length of 1-14 characters and features E²PROM memory for storage of both primary and secondary codes, input/output functions, deadbeat disable and user outputs, plus default reset. Programming easily performed by means of a conventional DTMF encoder. 6-24V DC. 0.80"W x 1.37"L x 0.23"H. ***NorFax™ #5545*** **$59.95**



▶**NC-409 TOUCH-TONE ANI ENCODER** A unique micro-miniature unit with field programmable ANI, 15 auto-dial memories and last number redial capabilities, plus transmit time-out timer, busy lock-out, last number redial and microphone mute function. Designed to automatically or manually generate all 16 standard DTMF characters. E²PROM memory provides non-volatile storage of all programmable memories and configurations. It's easily programmed by means of any standard X-Y keypad with a common ground. 6 to 24V DC. 0.85"w x 1.40"L x 0.22"H. ***NorFax™ #5630*** **$49.95**



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- ★ Weight: Approx. 1 lb.
- ★ TRANSMITTER: High Power 5 W; Low Power 0.5W

▶**Model AZ-21A** 2-meters; 144–148MHz transmit, 136 to 174MHz FM +118-135.995 MHz AM receive..... **$299.95**

▶**Model AZ-61** 6-meters; 50–54MHz FM transmit, 46 to 54 MHz FM receive..... **$379.95**

▶**Model AZ-11** 10-meters; 28–29.7MHz FM transmit, 28 to 29.995MHz receive..... **$379.95**

▶**SDX514W** Speaker mic for AZDEN Handhelds **$49.95**

AZDEN Headphones

The **DM-10** (left) and the **HS-03** with Boom Microphone (right) have been specifically designed to enhance voice reception and transmission. The lightweight, soft ear pads and adjustable headband permit long hours of use. The earphones on both models have a 20Ω impedance and a 200-5000Hz response with a 6dB rise at 2400Hz. A 1/4" phone plug is supplied. The dynamic boom microphone on the HS-03 features a 500Ω impedance and a 300-4000Hz response with a 6dB rise at 2500Hz. An 8-pin connector is supplied.

▶**DM-10** **$49.95** ▶**HS-03** **$49.95 SPECIAL**

▶**PTT-01** Push-to-talk switch for HS-03 boom mic **$39.95**

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Designed to meet the Heavy Duty requirements of MIL-STD-810

- ★ C-MOS microcomputer control
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- ★ Adjustable output power
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- ★ Priority channel
- ★ Repeater reverse
- ★ Offset
- ★ Programmable step
- ★ 20 channel memory
- ★ Keyboard up/down frequency selection
- ★ Feather-touch keyboard
- ★ Independent on/off power switch
- ★ Lithium battery back-up
- ★ Multi-function microphone
- ★ Built-in programmable tone encoder
- ★ Optional tone squelch decoder unit
- ★ 2"h x 5.5"w x 7.25"d

▶**PCS-7000H** 2-meters; 144–148MHz transmit, 136–174MHz FM plus 118-135.995 MHz AM receive, 50/10W... **$339.95**

▶**PCS-7500H** 6-meters; 50–54MHz FM transmit, 46–54 MHz FM receive, 50/5 watts **$389.95**

▶**PCS-7800H** 10-meters; 28–29.7MHz FM transmit, 28–29.995MHz receive, 50/5 watts.....**$389.95**

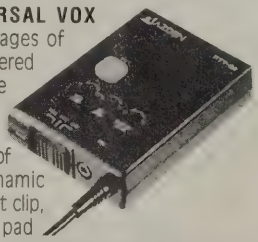
▶**PCS-7200** 220MHz; 215–230MHz FM, 25/5W **$409.95**

▶**PCS-7300H** 440MHz; 420–470MHz FM, 35/5W....**$439.95**

▶**PCS-9600D** 440MHz; 430–450MHz FM, 35/10W. A 9600 baud data radio. Plug and play from from panel.....**$649.95**

▶**TS-32P** Tone encoder wired for AZDEN mobiles..**$55.00**

▶**AZDEN PTT-02 UNIVERSAL VOX**



Gives any radio the advantages of remote manual or voice-triggered transmission with variable microphone gain and adjustable frequency equalization. Usable with all types of microphones, including dynamic and electret. A removable belt clip, Velcro tape, and soft desk pad permit universal mounting. An OFF-PTT-VOX switch permits either normal push-to-talk or VOX operation. An adjustable (0 to +8dB) 2kHz gain control coupled with an overall (0 to +10dB) gain control matches most microphones to most radios and shapes the frequency response. 2.4"w x 0.87"h x 3.35"d. Requires a 9V battery.....**$49.95**

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▶**199-416 BNC Magmetic Mount** Improve mobile HT performance! Get the RF outside of the vehicle. Simply attach the rubber duck antenna from your HT to this handy magnetic mount and place it outside, on the roof or trunk, where it can radiate without obstruction comes with 10 ft. coax and BNC connector ...**$17.95**

▶**MFJ-432 Voice Keyer**

Clone your voice! Store repetative phrases like "CQ Contest this is K9KHW..."You're 59"... QTH is Wisconsin, etc. Reduce fatigue and save your voice during long periods of operating. You can create and store four of your own messages totaling 20 seconds for instant recall. Uses 9V battery or 110 VAC with opt. MFJ-1312B. 6½"w x 2½"h x 6½"d... **$99.95**

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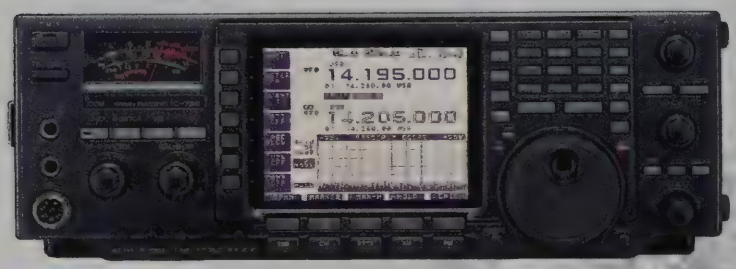
IC-707 Lowest Price ICOM HF! • 100 W (AM 25 W) • All Modes • Simple to Use! • 500 kHz–30.0 MHz General Coverage Receiver • Minimum Number of Keys • Front Facing Speaker • Large Display • Rugged Construction–Great for Mobile Operation • 100% Continuous Duty Cycle • 32 Memory Channels • PC Programmable • 13.8 V DC • Dimensions/Weight: 9.5"(W), 3.7"(H), 9.4"(D), 9.1 lb

SMALLEST HF EVER!

IC-706 HF + 6M + 2M! All Modes!
– Easy to Use as a Base or Mobile Rig! –
• HF+6 M (100 W) SSB/CW/AM/FM/RTTY • 2 M (10 W) SSB/CW/FM/RTTY • Detachable Control Panel/Display • SSB/CW/AM Narrow Filter Options • 101 Alphanumeric Memories • General Coverage Rx • Noise Blanker • IF Shift • Preamp/Attenuator • CW Keyer • CW Pitch Control • Full Break-in (QSK) • Speech Processor • VOX • LCD Display with 1 Hz Readout • Easy-to-use Menu System • Tone Encode Built-in • 2 Antenna Connectors • Voice Synthesizer Opt.(UT-102) • **Very Affordable Price!** • Dim/Wt: 6.6"(W), 2.3"(H), 7.9"(D), 5.5 lb



NEW! IC-756* All New **HF + 6M** with Adjustable IF-DSP! • 4.9" Concentrated Information LCD Dot Matrix Display with Spectrum Scope, Alphanumeric Memories and Soft Key Buttons • 100 W Stable Output Power (40 W AM) • SSB/AM/FM/CW/RTTY • Automatic Antenna Tuner • 101 Memory Channels • Automatic IF Notch Filter • Level/Width Variable Noise Blanker • PSN Modulation • Selectable Audio Peak Filter • Dual Watch • Twin Pass Band Tuning • Power MOS FET's • New High Performance Memory Keyer • Morse Code Mode Announcements to Aid the Visually Impaired • PC Programmable with CI-V Capability •12 V Operation • Speech Synthesizer • **Very Affordable Price!** • Dimensions/Wt: 13.4"(W), 4.4"(H), 11.2"(D), 23.1 lb

IC-775DSP Pull Out Signals No Analog Rig Can! • IF-DSP (Digital Signal Processing) Tx/Rx • 200 W Stable Output Power • (SSB/AM/FM/XCW/RTTY) • Built-in Heavy Duty Power Supply • Built-in Auto Antenna Tuner • Auto IF Notch Filter • Adjustable DSP Noise Reduction • Level/Width Variable Noise Blanker • PSN Modulation • Audio Peak Filter • Dual Watch • Twin Tuning Knobs • Twin Pass Band Tuning • Front Panel Switch Control Dual Antenna System • Power MOS FET's • CW Pitch Control • Electronic & Memory Keyer • Front and Back CW Keying Jacks • 1 Hz Tuning and Display • 99 Memory Channels • Selectable Pre-Amp (2 Levels) and RF Attenuator (3 Levels) • Built-In CTCSS Tone Encoder • VOX • Tx Frequency Check • Noise Blanker with Adjustable Level and Width • AGC with Adjustable Time Constant • Dimensions/Weight: 16.7"(W), 5.9"(H), 15.4"(D), 36.8 lb

IC-781 The Ultimate ICOM HF Transceiver • 150 W (75 W AM) • Multi Function CRT Display • Dual Watch • Built-in Tuner • Quad Conversion Receiver • Twin Passband Tuning • Built-In Power Supply • Too Much to List–Call! • Dim/Wt: 16.1"(W), 5.9"(H), 16.2"(D), 50.7 lb

No-Code Techs!
Work the NEW AMSAT Phase 3-D Satellite!
(Due 5/97)

NEW! IC-821H 2M/440 MHz Advanced Satellite & Digital Base Station • All Modes • Easy to Use! • Continuous Adjustable Transmit Power • Sub Band Transmit • 9600 Full Compatibility Out of the Box • 160 Memories • Noise Blanker & IF Shift on Main & Sub Bands (independent main/sub Rx) • Built-In Electronic Keyer • Satellite Tracking with Doppler Correction • Compact! 9.5"(W), 3.7"(H), 9.4"(D), 11.0 lb

NEW! IC-R8500* Next Generation HF/VHF/UHF World Receiver! • Wide Frequency Range: 100 kHz – 2000 MHz (cellular blocked; unblocked OK to FCC approved users) • All Modes • Superior Receive Characteristics • Built-In CI-V and RS-232C Hardware for Advanced Computer Control • IF-Shift • Audio Peak Filter • Noise Blanker (SSB/AM)• RF Attenuator • 1000 Memory Channels • 13 Different Tuning Steps • 3 Antenna Connectors • S-Meter Squelch (in addition to ordinary noise squelch) • Selectable AGC Time Constant • High Stability (<30 MHz: ±100 Hz, V/UHF: ±3 ppm) • 12V DC/120V AC • **Very Affordable Price!** • Dimensions/Weight: 11.3"(W), 4.4"(H), 12.2"(D), 15.4 lb

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ICOM brings the airwaves ALIVE!

IC-Δ1A 2M/440 MHz/1.2 GHz Tri Band • 5 W (1 W on 1.2 GHz) • Simultaneous Rx on All 3 Bands • Speaker Selection • 3 Independent Displays • Crossband Double Duplex • Adjustable CPU Controlled Squelch • 78 Memory Channels • Dim/Wt: 2.3"(W), 5.7"(H), 1.9"(D), 1.4 lb

IC-T22A/IC-T42A (2M/440 MHz) • Fun, Shirt Pocket Small and Easy to Use! • Large Alphanumeric Display • Wide Rx Coverage • 5 W @ 13.5 V (3 W Out of Box) • Air Band Receive • 80 Memory Channels (40 w/Alpha Display) • Dimensions/Weight: 2.3"(W), 4.3"(H), 1.1"(D), 10.9 oz.

IC-T7A 2M/440 MHz Dual Band • Dual Bands at a Single Bander Size & Price! • Very Easy to Use—No Function Key • 4 W (2M) /3 W (440)@ 13.5 V • "Intuitive" Help Display • CTCSS Encode/Decode • **Very Affordable!** • Dim/Wt: 2.5"(W), 4.8"(H), 1.1"(D), 11.3 oz.

NEW! IC-W32A 2M/440 MHz Dual Band • 5 W Out of the Box! • No Function Key! • PC Programmable • 200 Memories with Alphanumeric Display, Messaging & Paging • "Intuitive" Help Display • Backlit Display and Keypad • Wide Band Rx (Including Air Band) • V/V, V/U, U/U Operation with VHF/UHF Tuning Knob Exchange • Encode/Decode • PC/Radio-to-Radio Cloning • Dimensions/Weight: 2.2"(W), 4.9"(H), 1.2"(D), 12.0 oz

IC-2000H 2M Intermod Fighter! • Wide Band Rx (118–174 MHz) • Highly Intermod Resistant • 50 Watts of Power • 50 Memory Channels with Alphanumeric Display • AM Aircraft Rx • Full/Program Scan • **Very Affordable Price!** • Dim/Wt: 5.9"(W), 2.0"(H), 5.9"(D), 2.4 lb

IC-2350H 2M/440 MHz Dual Band • 2M (45W)/440 MHz (35W) • Fast Scanning • 110 Channel Capacity Backed Up with EEPROM • Wide Band Rx (118–174 MHz) • PL Encode Built-In • Duplexer Built-In • Auto Repeater Shift • Dimensions/Weight: 5.5"(W), 1.6"(H), 8.1"(D), 2.6 lb

Full Control Mic!

Directly enter frequencies straight off the backlit mic! Two programmable function keys allow for easy customizations. Make the IC-2710H as simple or as advanced to use as you want!

IC-2710H 2M/440 MHz Dual Band • 2M (50W)/440 MHz (35W) • Detachable Control Panel • Fast Scanning • 220 Memory Channels • PC Programmable • CTCSS Encode (decode optional) • RF Attenuator • 8 DTMF Memory Switches • V/V, U/U Simultaneous Rx • Built-In Duplexer • 3 Selectable Power Levels • Dim/Wt: 5.5"(W), 1.6"(H), 8.4"(D), 3.1 lb

IC-Δ100H 2M/440 MHz/1.2 GHz Tri Band • 2 M (50 W), 440 MHz (35 W) 1.2 GHz (10 W) • 8 Different Combinations of 2 M, 440 MHz & 1.2 GHz Tx and Rx • 642 Memories • Detachable Front Panel • Full Remote Control Microphone • Dimensions/Weight: 5.5"(W), 2.0"(H), 7.7"(D), 4.5 lb

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True IF-Stage DSP + Computer Programmability

The TS-870S provides a new level of HF performance. You can now pick out weak signals you've never heard before. True IF-Stage Digital Signal Processing is achieved using two 24-bit 20MIPS (Million Instructions Per Second) Motorola DSP chips providing an impressive dynamic range of 144 dB. Analog data is processed via a 10,000+ gate array device converting analog signals to digital information with amazing CW characteristics and SSB audio clarity. By capturing the signal at IF frequencies and applying complex algorithms according to personal configuration parameters, you can achieve filtering that is ***simply impossible with an analog circuit.*** Enjoy filtering sharp enough to attain over 100 dB out of band attenuation with virtually no signal loss. Imagine 70 nanosecond access time ROM devices and SRAM designed with an astonishing 25 nanosecond access time, makes the TS-870S in a class by itself for rejection of QRM and QRN. Kenwood's IF-Stage DSP design ***eliminates the need for additional expensive and inferior analog filters.*** The TS-870S let's you easily adjust the filtering system to meet your personal taste and requirements eliminating signal loss and "ring" found with conventional analog filters. All this is achieved by using Kenwood's easy to use menu system and Radio Control Program software that is included. Any operator can custom design multiple radios (CW, DX, RTTY, Packet, or Ragchewing), and save to a file for future use. The TS-870S has no competition, check for yourself.

TS-870S
HF Transceiver

Investing in a new HF transceiver is a serious decision. Kenwood has produced a clear and easy to understand, In-Depth TS-870S manual. It's yours for the asking! In our continuing role as a technology leader, Kenwood is proud to offer the TS-870S IF-Stage DSP Transceiver. The TS-870S has a full array of smooth operating features including, general coverage RX 100KHz-30MHz, full-function electronic keyer, dual antenna terminals, TX-RX auto antenna tuner (160-10M bands), auto notch, beat cancel, transmit equalizer, noise reduction, all active within the DSP processors. The TS-870S filtering system allows selectivity down to 50 Hz on CW without ringing or signal loss. Optional features like a Digital Recording Unit (DRU-3) and Voice Synthesizer (VS-2) are also available. TS-870S is truly in a class by itself.

With included PC software, build different radios on screen and save all your functions and settings to a file for future use.

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Light Sensation

User-friendly operation

Fingertip convenience. Both the TH-22AT (144 MHz) and TH-42AT (440 MHz) feature an easy-to-use menu system with programming and simple operation for the new operator as well as the veteran.

Compact rugged design

Measuring just 2-3/16 x 4-5/8 x 1" (56 x 117 x 25mm), these transceivers are so small and slim that they can easily slip into your shirt pocket. The TH-22AT/TH-42AT are remarkably light, yet reassuringly built tough.

Efficient MOS FET power module

The FET power module generates high output power (5 watts with only 9.6 V input) from a PB-34 battery, providing many additional hours of enjoyment. The supplied 6 V PB-32 battery pack provides up to 3 watts (TH-22AT) or 2.5 watts (TH-42AT).

Direct DC - in terminal

Power source versatility goes a step further: you can remove the battery power source completely and use a direct DC (5.0 V~16.0 V) source from your car or home using the PG-3H filtered cigarette lighter cord or the PG-2W DC cable for a full 5 watts (9.6 V~16.0 V) of power.

Great receive audio output

In the famous Kenwood tradition, the 1-7/16" speaker offers outstandingly clear audio quality.

40 non-volatile memory channels + 1 call channel

All 41 memory channels can independently store essential data—transmit and receive frequencies, frequency step, tone (CTCSS) frequency, tone on/off, CTCSS on/off, DTSS code, DTSS on/off, shift reverse on/off—all in a non-volatile E2PROM. There's no need for a lithium battery backup.

Luminescent DTMF keypad

The DTMF keypad enables direct frequency entry (in VFO mode) and direct recall of memory channels (in MR mode). The DTMF memory function allows storage of up to (5) commonly used auto-dial telephone numbers for autopatch use. The luminescent keypad helps increase operating convenience while no additional battery drain is required.

TH-22ATK2 version

If you prefer to custom tailor your own TH-22AT, you can choose the low-cost TH-22ATK2. You now have 8 different power and charging options including (3) NiCad battery options (PB-32, PB-33, PB-34), an AA alkaline battery pack (BT-9), or start with just the PG-2W power cord for DC power input.

Other Features

- DTSS & page
- DTMF memory (5 x 15-digit codes) & transmit hold
- Multiple scan & scan stop modes
- Busy channel lock-out
- Tone alert with elapsed time indicator
- Selectable squelch configuration
- Key lock
- Time-out timer (30, 60, 90, 180, 900 sec.)
- Auto battery-saver circuit
- LCD with 2 backlight modes (on demand or continuous)
- 3-level RF output power control
- Built-in CTCSS encoder and optional decoder
- Auto power-off
- Auto repeater offset (TH-22AT)
- Battery voltage indicator
- Modifiable for MARS/CAP*

*Permits required for MARS/CAP use
Specifications guaranteed for Amateur bands only
Kenwood follows a policy of continuous advancement in development. For this reason specifications may be changed without notice

TH-22AT/42AT

FM HANDHELD TRANSCEIVER

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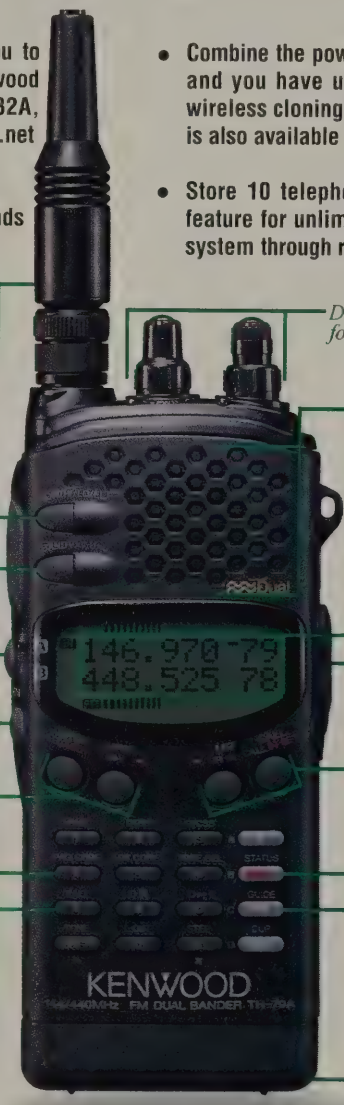
A True FM Dual Bander

Kenwood is known worldwide for outstanding products. With over 50 years of design, engineering and manufacturing experience, it is easy to see how Kenwood sets itself apart from the competition. In the world of Amateur Radio, Kenwood has a strong and rich heritage based on one simple truth. We do our very best to build the best. Kenwood Amateur Radios not only have the look of a well designed and manufactured product with a superior "quality feel", but also have the same world famous Kenwood reputation on the inside. Now surprisingly affordable!

- **Exclusive crossband REMOTE CONTROL function allows you to transmit and receive from your TH-79AD through your Kenwood high power mobile radio for extended range. (TM-732A, TM-733A, TM-742A, TM-942A) see ftp://ftp.kenwood.net (AAN0016-JPG)**
- **TRUE DUAL-BAND OPERATION to listen to VHF and UHF bands simultaneously**
- **Combine the power of PC programming and wireless cloning functions and you have unlimited frequency set-up versatility. Kenwood's wireless cloning is built-in. Easy to use 32 bit programming software is also available at http://www.acsys.com**
- **Store 10 telephone numbers in the TH-79AD's 15 digit auto-patch feature for unlimited access to your local or long distance telephone system through repeaters**



High Performance Antenna for extended receive on aircraft and weather bands

Dual Volume Controls for each separate band

Speaker Audio Famous Kenwood quality

3 Power Settings with economy feature for long battery life

DOT-MATRIX display Easy to Read, a Kenwood exclusive

VHF-UHF / VHF-VHF / UHF-UHF Dual Receive allows you more choices

Lamp

5 Watts Radio output with 12 Volt DC input

Frequency LOCK Function

82 (7 character) ALPHA-NUMERIC MEMORIES with easy ID input and memory scan functions

High Speed VFO / MHz Scan

Scrolling Menu of Operating Settings

Private Alert Paging function

Built-In Scrolling Instruction Manual "How To" functions

Built-in CTCSS Encode/Decode (for easy repeater access)

TH-79AD 2.7 watt version
TH-79AD(H) 5 watt version

TH-79AD
FM Dual Bander

The TH-79AD and TH-79AD(H) provide an outstanding value in the dual-band HT class. Kenwood has achieved more firsts in Amateur Radio design with the customer's needs in mind. This is easy to see as soon as you turn on the TH-79AD. Unique features such as the only 7 character DOT-MATRIX LCD backlit display, a built-in scrolling operating menu and operation guide system allow easy access to "how to" instructions. MOS-FET power module reduces power consumption for longer battery life plus an E^2 prom that eliminates the need for a lithium battery back-up system. Its easy wireless cloning system allows you to copy program information from one radio to another Kenwood.

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Meets ISO Manufacturing Quality System

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REV It Up On 2 Meters

NEW!

61+1 (Call) Multi-Function Memory Channels

For quick access, essential data – transmit and receive frequencies, frequency step, tone frequency, etc.– can be stored in the 62 memory channels. All channels can store transmit and receive frequencies independently for odd split repeaters.

Memory Name (MN) Function

All 62 channels can be identified alphanumerically (max. 6 characters) instead of by frequency. This is particularly convenient for repeaters and club channels. It is also possible to switch to a channel number display.

DTSS Selective Calling

Built-in DTSS (Dual-Tone Squelch System) allows DTMF access: the squelch is opened only when a specific 3-digit code has been received. Using the wildcard asterisk, group calling is also possible.

High RF Output

The TM-261A (144MHz) and TM-461A (440MHz) put out an impressive 50 watts and 35 watts, respectively. Both models also have mid- and low-power settings.

Multi-Function Microphone with Backlit Keys

The supplied multi-function microphone has backlit keys to facilitate operation in low-light situations.

Built-In CTCSS Tone Encoder and Optional Decoder

The optional decoder enables the setting of different tones for transmit and receive.

Multi-Scan Capability

Choose from several scan modes: full band scan, programmable band scan, call scan, and memory scan with programmable memory channel lockout. There are also 2 scan stop modes: TO(time-operated) and CO (carrier-operated).

Improved Intermodulation Rejection

The TM-261A also exhibits superior adjacent channel noise rejection.

Meets MIL-STD Requirements

Strict MIL-STD environmental standards for vibration (MIL-STD-810C) and physical shock (MIL-STD-810D) are fully complied with.

DTMF Memory Function

Up to ten 15-digit DTMF codes with ID can be stored for auto-dial and telephone autopatch use. Redial is also provided.

Dual Menu System

Two menu modes – A and B – offer full control over such settings as frequency step and the time-out timer, when required.

Other Features

- Built-in CTCSS encoder and optional KQT-8 decoder
- Tone scan
- Repeater reverse switch
- Lock function
- Time-out timer
- Auto repeater offset (TM-261A)
- Busy channel lockout
- Auto power-off
- Wireless cloning function

KENWOOD SINCE 1946 50th ANNIVERSARY

TM-261A

2 METER MOBILE

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* Permits required for MARS and CAP use. Specifications guaranteed for Amateur bands only.
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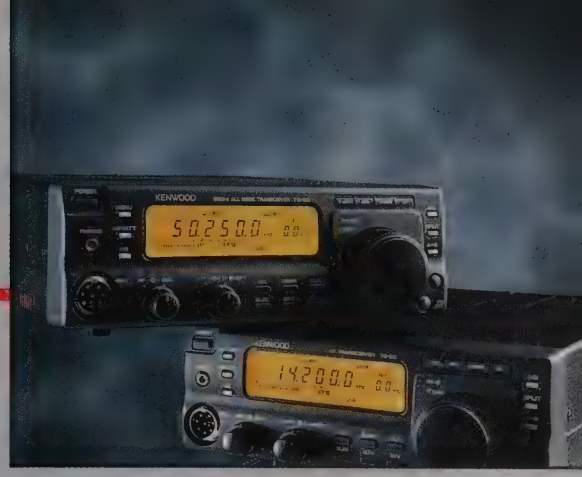
Mini-Mobility Super Simplicity



Powerful Portability

Kenwood's popular TS-50S is an extra-compact HF transceiver that's perfectly sized for mounting in a vehicle or taking on a DXpedition. Yet it's powerful too, offering spectacular TX/RX performance that's on a par with the big rigs. Maximum RF output is 100 watts (25W on AM), and all modes — LSB, USB, CW, AM and FM — are supported. The new ultra-light PS-40 compact switching power supply (option) is great for travel.

Intuitive Menu System

When time's at a premium, the user-friendly menu system allows you to rapidly adjust just about any setting with a minimum of fuss. The menus are also accessible via the supplied microphone.

Operating ease is further enhanced by 100 memory channels and extensive scan functions.

DDS with Fuzzy Logic Control

The fuzzy logic control circuitry allows for slow or fast tuning of the band.

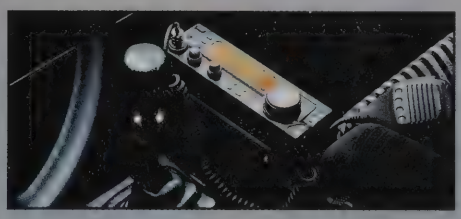
AIP (Advanced Intercept Point)

Kenwood's renowned AIP system raises dynamic range to 105dB, giving the TS-50S first-class receiver performance.

TS-50S
HF TRANSCEIVER

Other Features

- RF output power control (100W, 50W, 10W)
- Large LCD panel with digital bar meter
- Auto-mode capability
- Dual VFOs (A and B)
- TF-SET
- Carrier-operated scan stop mode
- Switchable AGC circuit (SLOW/FAST)
- All-mode squelch
- CW reverse mode
- 20dB attenuator
- IF shift
- Noise blanker
- Multi-function microphone supplied
- Optional YK-107C 500Hz CW filter
- Optional AT-50 external antenna tuner
- Optional PS-40 switching power supply
- Optional TC-50 travel case



TS-60S
50 MHz ALL-MODE TRANSCEIVER

6-Meter All-Mode Performance

Confidently holding its own against much larger rigs is the TS-60S 50MHz all-mode transceiver. Thanks to a pair of MRF492 final transistors, it delivers an impressive 90 watts in SSB, CW and FM modes (23W in AM).

First-Rate Interference Reduction

In addition to Kenwood's AIP circuitry, the TS-60S is equipped with IF shift (SSB & CW), a 20dB attenuator, CW reverse mode, and a pulse noise blanker. A 500Hz CW filter is optional.

100 Memory Channels

The TS-60S may be small in size but it's big on memory: 100 channels store transmit and receive parameters such as frequency, mode, and filter settings. Memory shift transfers data directly to the VFOs.

Multi-Function Microphone

The supplied MC-47 remote-control microphone has 4 programmable function keys that provide rapid access to chosen menu functions — perfect for mobile operation.

Other Features

- DDS (Direct Digital Synthesizer) with fuzzy logic control
- Large LCD panel with digital bar meter
- Auto-mode capability
- Dual VFOs (A&B)
- Dual-menu system
- All-mode squelch
- Switchable AGC circuit (SLOW/FAST)
- Full break-in and semi break-in
- TF-SET
- TO and CO scan stop modes
- Relay & ext. ALC terminals
- 3-position RF output power control
- Dimmer control
- Auto power-off
- Optional PS-40 switching power supply
- Optional TC-50 travel case

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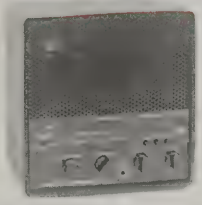
ALPHA DELTA COMMUNICATIONS, INC. AA



Model VRC Variable Response Console An advanced audio processing speaker system that offers studio level audio quality for music, voice, and CW/data for the communications enthusiast. It enhances the reception capabilities of ANY receiver, transceiver or scanner—even the expensive ones using DSP! An exclusive custom designed ducted port bass reflex speaker system offers outstanding audio performance.

- **Low distortion, low harmonic push-pull audio amplifier. Outperforms the typical single-ended types**
- **Adjustable 12 dB bass boost/cut circuitry enhances both voice and music. LED reads out in dB**
- **Adjustable sharp cut-off "Sampled Data Switched Capacitor Audio Filter" can be set for optimum interference reduction for any mode and any band condition. AM, FM, SSB, CW or data. LED light bar readout shows cut-off frequency and is calibrated in kHz**
- **Peaking circuitry (20 dB) allows CW/data signals to "pop" out of the background**
- **Continuously adjustable 40 dB deep notch circuitry effectively takes out interfering heterodynes**

Model VRC Variable Response Console **$249.95**

Model VRC-2 Ducted Port Bass Reflex Speaker – same as above but no amplifier/filter **$99.95**

synthetic textiles, inc. BLACK DACRON® POLYESTER ANTENNA ROPE

- UV-PROTECTED • HIGH ABRASION RESISTANCE
- REQUIRES NO EXPENSIVE POTTING HEADS
- EASY TO CUT • 100 ft. **$6.95** – 350 ft. **$39.95**

pro·am by Valor "The Clear Connection"

VAA-002
1/4 Wave Magnet Mount Kit for 2 meters: also can be cut for 220 or 450MHz. Includes 12 ft. of cable with PL-259 connector
$19.95

Also available: **VAA-002BN** Same as VAA-002 except with BNC connector
$22.95

MM-270B
Dual Band MICRO-MAG™ Miniature Antenna for 2M and 70cm
$39.95

AB5
Complete 5 band Antenna Kit. Includes resonators for 10M, 15M, 20M, 40M, and 75M
$89.95

WMSL-BNC
Window clip antenna mount for BNC rubber ducks, etc. With cable and BNC connector
$29.95

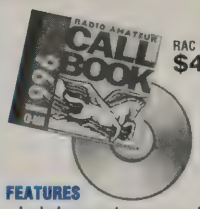
GM-270
Dual Band Through-the Glass Antenna for 2 meters and 70cm
$39.95

MM-3401
Maxi-Magnet Mount Kit includes 3–5 in. magnets and 17 ft. of cable with PL-259 connector
$49.95

PHF Series Monoband Antennas (left)
Consists of a 4 ft. fiberglas lower section with an adjustable steel whip on top. 10 models available for 160 thru 6 meters
See PRO AM in the Price List.

D-270
100W Duplexer for 2M and 70cm dual band antennas
$39.95

RADIO AMATEUR CALLBOOK CD-ROM-1997



RAC RACD03 **$49.95**

Access Callsigns, Names and Addresses of more than 1.3 million listings world-wide covering more than 250 countries, islands and dependencies. Includes North American and International listings.

FEATURES
- **Includes country names, date of birth • QSL Manager listings**
- **Print program with multiple entries to customize a mailing label or logging format; contesters can record callsigns and automatically print custom fields for labels or QSL addressing.**
- **Windows/DOS platform for US & International data retrieval**
- **Windows icon driven by mouse & DOS via menu**
- **Data display by callsign, last name, city, license class issue & expiration date • Morse code sound output to PC speaker**
- **Search U.S. stations by callsign, last name, county, city & zip**
- **Search International data by callsign • Text search by name, street, city, province or region**
- **Text search of clubs, then and nows, military & silent keys**
- **US data includes time zones, latitude/longitude & area codes**

RADIO AMATEUR CALLBOOK
North American & International Callbooks

Complete up-to date listings of more than 700,000 licensed amateurs – Calls, Names and Addresses The International Callbook contains 600,000 licensed amateurs outside of North America.

North American Callbook RAC 058913 **$39.95**
International Callbook..... RAC 058905 **$39.95**

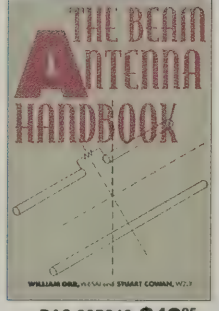
Belden New 9913F High-Flex RF Transmission Cable

This low-loss RG-8/U-type coaxial cable is a high-flex version of Belden's popular 9913. It offers a stranded center conductor for improved flexibility and flex life, a patented high-flex cut and abrasion resistant jacket and a high velocity foam insulation.

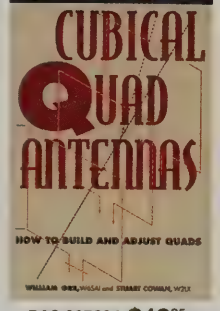
- **Center Conductor:** 10 AWG (19x23) .108 bare copper
- **Insulation type:** Foam polyethylene
- **Shield:** Duobond II + 90% tinned copper braid; 100% shield coverage.
- **Nominal Impedance:** 50Ω • **Velocity Factor:** 83%
- **Diameter:** .405 inch • **Nominal Capacitance:** 24.5 pF/ft.
- **Loss per 100 ft:** 1.5dB @100MHz, 2.8dB @400MHz

Per ft. **$.87** - 100 ft. roll **$79.95** - 250 ft. roll **$149.95**
500 ft. roll **$279.95**

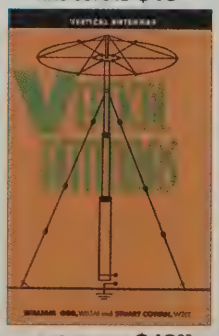
POPULAR ANTENNA BOOKS
by William Orr, W6SAI & Stuart Cowan, W2LX



RAC 087042 **$13.95**



RAC 087034 **$13.95**



RAC 087107 **$13.95**

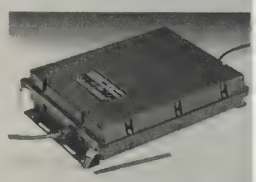
RAC 087077 **$13.95**

- *Amateur Bands*
- *Marine Bands*

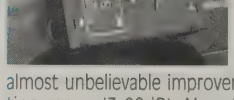
SG-2000 COMMERCIAL GRADE HF TRANSCEIVER

A rugged HF transceiver with 150W PEP output. Modes: A3A A3H, A3J and CW in LSB and USB, true AM in receive mode and data. Comes programmed with 644 ITU channels and 100 user defined channels that can be set to the Ham frequencies in the 1.8–30 MHz range; receives 500kHz-30MHz. Keypad control with 21 illuminated keys. Scans ITU channels and 100 memories with adjustable scan speeds/rates. Large LCD, wide-angle display, adjustable back lighting for easy viewing night or day. Operates as a single unit, or the front panel can be removed to function as a remote control head. Built-in computer control capability, can be controlled by any standard RSS-232 protocol connector for easy operation on all Digital Modes. 12VDC @ 16A. 4¾"h x 10"w x 15"d, 12 lbs **04-01 $1479.00**

SG-2000ADSP "The PowerTalk™" The SG-2000 with advanced ADSP & SNS technology and a slim state-of-the art control head. PowerTalk™ greatly improves signal clarity and reduces noise, resulting in extremely high quality HF signals. Bright red and green LED's indicate tuning of high-low-center frequencies. Preset/User Programmable memories allow quick recall of ADSP and, SNS, and high-low-center, and notch filter settings. 644 ITU and Ham frequencies including SITOR/AMTOR/PACTOR telex channels in permanent memory, plus 100 user-programmable channels.150W output. 12VDC @ 16A. 4¾"h x 10"w x 15"d, 12 lbs **04-10 $2399.00**



SG-230 The Smartuner® An automatic HF antenna tuner capable of tuning any length antenna from 8 to 80 ft. long within the 1.8 to 30MHz frequency range; 160M operation requires 8 ft., minimum. Operates with low power, it even tunes up on an SSB signal; rated up to 150W. A microprocessor controls the switching of 64 input and 32 output capacitor combinations, plus 256 inductance combinations in a pi-network to tune an antenna in just two seconds. 500 memories store previous tuning combinations to tune in milliseconds. Waterproof for reliable marine operation. 10–5VDC @ 0.9A.12"w x 16"d x 3"h, 8 lbs..... **54-12 $489.95**



QMS Antenna Tuner System A SGC Smartuner® automatic antenna coupler, SG-303 9 ft. extended full range antenna, and a special exterior waterproof mounting package. It's unusual, but it gives any mobile operating in the 1.8–30MHz range with up to 150W, an almost unbelievable improvement in reception and transmitting range (3-20dB). Mounting the tuner on the outside reduces engine noise and eliminates lossey wire runs between the antenna and tuner. It attaches to vehicle using high suction devices and nylon webbing – a rugged antenna installation without holes. 18"w x 12"d x 5"h, 24 lbs **55-47 $895.00**

▶**SG-500 SmartPowerCube™** A fully automatic bandswitching, microprocessor-controlled HF Linear Amplifier for fixed, mobile, & marine applications in the 1.6 to 24 MHz range. Rugged, with a cast-aluminum enclosure and extra heavy duty heat sinks, powder coat finish, and the most durable electronic components. New assembly techniques result in a nearly indestructible, compact and light, unit. It's specifically designed to operate in an unattended manner making it Ideal for installations where access to the amplifier is limited. Output is 500W PEP, with 50W to 90W input; CW rating is 500W output for 10 minutes, or unlimited time with an optional fan. Requires 10–18.0 VDC @ 40A average (SSB), 90A peak, or CW. 6"h x 12¼"d x 11½"w, 21 lbs....**52-96 $949.95**

HEAR in the CLEAR

SGC PowerClear™ "Add-on DSP"

SGC's new PowerClear™ uses the power of advanced **Digital Signal Processing** to clear noisy, interference-plagued audio.

Mates with any HF SSB unit. Reduces noise and interference from virtually any audio source—HF, VHF/UHF transceivers, scanners, shortwave receivers, micro-wave, and telephone lines.

PowerClear attacks noise and heterodynes with advanced DSP algorithms and lets you tailor bandpass response to your individual need—separate adjustments for low and high cutoff as well as audio bandpass shift.

Cut through the noise with factory preset filters and with up to seven combinations of your choice. The bright red and green LEDs quickly show your selected filter adjustments. Only 3.65" high!

Hear more with SGC's PowerClear. Call your nearest AES® branch now for details.

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No Compromise Communications

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SGC Inc., SGC Building,13737 S.E. 26th St. Bellevue, WA. 98005 USA
P.O.Box 3526, 98009 **Fax:** 206-746-6384 or 746-7173
Tel: 206- 746-6310 or 1-800-259 7331
E-mail: SGCMKTG@aol.com **World Wide Web:** sgcworld.com

POWERTALK™

Stunning HF-SSB Receive Clarity With SGC DSP.

With SGC's new PowerTalk™, you'll intercept weak HF signals, increase signal clarity and eliminate unwanted noise. You'll hear SSB signals clearer and easier than ever before. PowerTalk™ combines the advanced receiver technology of SGC's exclusive ADSP™ (Automatic Digital Signal Processing) and SNS™ (Signal Noise Subtraction). Fast audio *and* visual tuning—a DSP command center with a high performance spinner knob and bright LED indicators. Plus all the outstanding features of the popular SG-2000: 644 ITU and ham frequencies, programmable memory, large LCD display and 150 watts of power out. PowerTalk™ is a true HF-SSB Power Tool. We have all the details. Call us *and hear more.*

SGC

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MADE IN USA

The SGC Building Box 3526 Bellevue, WA 98009 USA
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BUY SMART

SG-230 Smartuner®

Antenna Coupler

SSB, AM, CW & DATA

You can't buy a smarter tuner than this. An automatic antenna coupler so intelligent it precisely tunes any length antenna –8 to 80 ft–in the HF band.

The Smartuner® automatically evaluates and switches 64 input and 32 output capacitance combinations, plus 256 inductance combinations in a "pi" network. The amazing result is over a half-million different ways to ensure a perfect match for your transceiver. And the most intelligent feature of all is that the Smartuner remembers the chosen frequency and tuning values, and will automatically reselect those values –in less than 10 ms, each time you transmit on that frequency.

The SG-230 Smartuner.® Buy smart.

MICROPROCESSOR CONTROLLED • NON-VOLATILE MEMORY • WATERPROOF B.I.T.E. INDICATOR • 1.8 TO 30 MHZ RANGE • 10 TO 150 WATTS INPUT POWER 10mS RETUNING TIME • 8 to 80 ft. ANTENNA (all types)

AMERICAN TECHNOLOGICAL LEADERSHIP MADE IN USA

SGC

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SGC Inc. SGC Building P.O. Box 3526 Bellevue, Washington 98009
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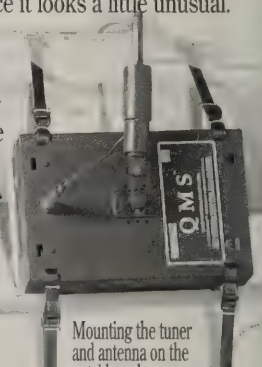
OWN THE WORLD'S BEST FOUR-WHEEL-DRIVE BASE STATION

Add a QMS Antenna Tuner System to your SSB.

$895.00

The QMS is an SGC Smartuner® automatic antenna coupler, an SG-303 extended full-range antenna, and the special exterior—waterproof— mounting package, all in one.

The QMS is that large box strapped to the side. We admit, at first glance it looks a little unusual. But once you use it, you'll find an almost unbelievable jump in reception and transmitting range (3-20 db). The QMS makes a typical HF-SSB perform like it's never performed before. Match it with a cutting edge SGC HF-SSB and it will blast holes through major mountain ranges and probably some laws of physics. Power and focus are everything in HF-SSB ham rigs. Buy this and own the best base station on–or off–the road.



Mounting the tuner and antenna on the outside reduces engine noise and eliminates power-draining antenna wire runs between the antenna and tuner.

QMS. It's the look of focused power.

LEARN TO LOVE THE LOOK

SMARTUNER® INSIDE

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Couple to 500 Watts

SGC SG-235 SMARTUNER

SmartTuning—Now at 500 watts. Now you can achieve perfect coupling of your 500-watt HF-SSB to your antenna. Go **mobile** at **500 watts**!

The SG-235 Smartuner "intelligently" tunes any length antenna from 23 feet! No preliminary tuning or adjustment is required and the SG-235 will operate with any HF transceiver in the 1.8 to 30 MHz range and with output power from 3 to 500 watts.

Automatically the SG-235 Smartuner evaluates and switches 64 input and 32 output capacitance combinations plus 256 inductance combinations in a "pi" network—over a half-million precision matches. The SG-235 Smartuner then remembers the chosen frequency and tuning values and automatically reselects those values—in less than 10 ms, each time you select that frequency. Flexibility is a key feature with its attractive options, including 24 VDC.

- Microprocessor Controlled
- Non-Volatile Memory
- Waterproof for All Weather
- Built-in Test Equipment Indicator
- 1.8 to 30 MHz Range
- 3 to 500 watts Input Power
- 10-mS Retuning Time

MADE IN USA

No Compromise Communications

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SGC Inc., SGC Building,13737 S.E. 26th St. Bellevue, WA. 98005 USA
P.O.Box 3526, 98009 **Fax:** 206-746-6384 or 746-7173
Tel: 206- 746-6310 or 1-800-259 7331
E-mail: SGCMKTG@aol.com **World Wide Web**: sgcworld.com

BRAIN POWER

SGC SG-500 SMART POWER CUBE

Microprocessor Controlled Linear Amplifier: 1.8 — 24 MHz

The SG-500 SmartPowerCube produces tremendous power—nearly as much as a 1000W amplifier. Yet it requires less than one cubic foot of space. Electronic brain power makes this possible. The SG-500 is an intelligent—microprocessor-controlled—high power linear amplifier, designed with high efficiency transistors. Its electronic brain constantly monitors your HF-SSB's activities, power needs, and antenna condition, and automatically—in less than 15 milliseconds—selects the right broadband filter.

It's designed to perform reliably and essentially unattended, in the most demanding conditions. For maximum power—intelligent power—at low cost, the SG-500 Smart Power Cube is just the amplifier that you need.

Power Output:
SSB: 500 watts PEP
CW: 500 watts 10 min. (no fan)
500 watts unlimit ed with fan
AM: 250 watts carrier max.
Band Switching: fully automatic
Protection: Input overdrive, over current, over temperature
Domestic: 1.8—24 MHZ

CALL AES® TODAY!

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Keep On Movin' with STANDARD's Mobiles

3 Bands...2, 70 cm, & 6 Meters! C5900DA! One compact package!

C5900DA FEATURES...

Tested tough against intermod with Double Balanced Mixer (DBM) and Tracking Front-End
DTMF remote control with HT
Cross-band repeat, 6M, 2M and 70cm with CTCSS encode/decode
Full Duplex cross-band operation with CTCSS encode/decode
7 priority hyper frequencies
1200-9600 packet interface
Antenna Triplexer Built-in one antenna for all bands
Dual-frequency display; left side 6m, 2m and 70cm, right side 2m and 70cm
Frequency Receive Range:
Left band 44.000 - 99.995 MHz
100.000 - 225.000 MHz
240.000 - 530.000 MHz
Right band 100.000 - 200.000 MHz
260.000 - 510.000 MHz
550.000 -1020.000 MHz*
(both including AM aircraft)
45 Watts 6M, 50 Watts 2M and 35 Watts 70cm (3W Low, 10W Medium selectable) transmit ham-bands
*cellular blocked on 800 MHz band
Size: 5.51"W 1.57"H 6.81"D
Weight=2.65 lbs.

MEMORIES...

- 80 memories (each side); stores frequency, offsets, CTCSS tones and much more
- Expandable 200 memories each side with optional, CMU161
- Frequency steps, 5, 6.25, 10, 12 .5, 15, 20, 25, 30, 50 and 100 kHz.
- Paging\Coded squelch
- DTMF autopatch dialing, 12 memories, 6 per side, 15 digits
- Eight kinds of scan: 1 MHz, entire band, program, memory, block memory, program memory, memory scan memory and tone

DISPLAY...

- Snap-on front display or remote the radio in the trunk or under the front seat
- Back-lit Keypad and Display
- MY key, store favorite function
- TX Time-Out-Timer 3, 5, 15 mins
- Auto power-off 3, 6, 9 hrs
- Auto mute opposite band -20dB
- Beep-tone off, low or high
- Cooling fan built-in.

Mobile bracket and power cord (2M) included

MARS and CAP modification available; permit required

C1208DA Twin-Band has everything in the Speaker/Mic... and delivers 50 watts, too!

C1208DA TWIN-BAND MOBILE FEATURES...

A full featured 2-meter rig that fits anywhere, yet puts out a full 50 watts as well - that's Standards new C1208DA!

With all controls and the large liquid crystal display in the speaker/mic, this rig can mount anywhere - no more compact car woes! The rig's under the seat, behind the dash, or in the trunk (with optional extension cable) - all you need is in your hand. All this, plus it's packet ready (up to 9600 baud)!

Frequency range:
Receives 110-199.995 MHz and 250-519.995 MHz plus 800* MHz (including AM aircraft) .
50 Watts, 10W and 3W selectable
Built in Antenna Duplexer for 450 MHz receive
*Cellular blocked on 800 MHz band

MEMORIES...

- 100; stores frequency, offsets and CTCSS tones.
- CTCSS Encode/Decode standard.
- Frequency steps, 5, 10, 12.5, 15, 20, 25, 50 and 100 Khz.
- Paging/Coded squelch.
- DTMF autopatch dialing, 10 memories, 15 digits.
- Six kinds of scan, including priority and CTCSS.

DISPLAY...

- Back-lit Keypad and Display
- Auto mute: four settings (-10, -20, -30 and off)
- Semi Duplex cross-band operation with CTCSS tones
- Cooling fan built-in

Size: 5.51"W 1.18"H 5.79"D
Weight 1.65 lbs..

Mobile bracket and power cord (3m) included.

Get A Grip On Standard's Hand-Helds!

C156A

C156A 2m Transceiver

STANDARD'S QUALITY! STANDARD'S FEATURES! EVERYBODY'S PRICE!

- 5 watts high power
- 100 memories
- 135 to 174MHz extended receive
- Clear Dot-Matrix display with alpha-numeric ID
- CTCSS Encode built-in
- 9 DTMF memories
- Scanning-busy, pause or hold
- Auto repeat offset
- Built-in 1750 Tone Burst
- Auto-Power-Off 30, 60, 90 or 120 min

C508A

C508A 2 Meter & 440MHz Dual Band

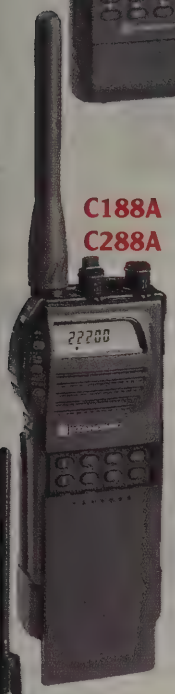
VHF & UHF IN YOUR SHIRT POCKET

- 280 mW with 2-AA batteries
- 60 memories
- 100-180, 340-400 & 400-480MHz extended receive (including AM aircraft band)
- CTCSS Encode/Decode
- 22 menu selections
- Scanning-busy, pause or hold
- Freq steps 5, 10, 12.5, 15, 20, 25, 30 and 50

C528A
C628A
C228A

C228A 2M & 220MHz Deluxe Twin-Band HT

- 5W (2M and 220) at 12 VDC
- 40 memories (20 + 20 "limited" memories)
- 130-174 and 200-244MHz extended receive
- 1 Auto Dial memory
- CTCSS Encode/Decode
- DTMF squelch with Paging
- Scanning-busy, pause or hold



C188A
C288A

C188A 2 Meters The Slim-Line HT

- Fits in your shirt pocket!
- 5W at 12 VDC
- 40+ memories (or optional 200+memories with snap-in chip)
- 115-174MHz extended receive (including AM air band)
- CTCSS Encode/Decode
- DTMF squelch with Paging
- Scanning-busy, pause or hold

C288A 220 MHz Slim-Line HT

- Same as C188A but for the 1 1/4 meter band
- 115-249 MHz extended receive
- TX 220 MHz band

C468A
C168A

C168A 440MHz The Deluxe small HT

- 2 Meters
- The Deluxe small HT 5 watts at 12 VDC
- 40+ memories (or optional 200+ memories with plug-in chip)
- 115 to 174MHz extended receive (including AM aircraft band)
- CTCSS Encode/Decode
- DTMF squelch with Paging
- Scanning-busy, pause or hold

C468A 440MHz The Deluxe small HT

- 5 watts at 12 VDC
- 40+ memories (or optional 200+ memories with plug-in chip)
- 400-474MHz extended receive
- CTCSS Encode/Decode
- DTMF squelch with Paging
- Scanning-busy, pause or hold

C528A 2M & 440MHz Deluxe Twin-Band HT

- 5W (2M and 440) at 12 VDC
- 40 memories (20 + 20 "limited" memories)
- 130-174 and 300-474MHz extended receive
- CTCSS Encode/Decode
- DTMF squelch with Paging
- Scanning-busy, pause or hold

C628A 70 cm & 23 cm

- Same as C528A but for the 70 & 23 cm band
- 5W 70 cm and 1W 23 cm at 12 VDC

C558A

C558A 2 Meter & 440MHz Elegance, Balance and Twin-Band Performance

- 5W at 12 VDC
- 40+ memories (opt. 200+ memories with plug-in chip)
- 115-174 & 340-474MHz extended receive (including AM aircraft band)
- CTCSS Encode/Decode
- DTMF squelch with Paging
- Scanning-busy, pause or hold

C108A 2M & Very Small HT

- 20 memories
- 100-174 0 MHz extended receive (including AM aircraft band)
- CTCSS Encode 23 tones
- 1 MHz, Full Range, Memory, and Memory-Scan-Memory: Programmable for Pause & Busy
- DC Power: 2 alkaline AA penlight cells

C108A

C178A

C178A 2 Meters (+low power 440) The Deluxe Dual-Band HT

- Single-Band Price
- 5W (2M) at 12 VDC & 50mW (440)
- 40+ memories (opt 200+ with plug-in chip)
- 110-174 & 320-474MHz extended Rx (including AM air band)
- CTCSS Encode/Decode
- DTMF squelch with Paging
- Scanning-busy, pause or hold

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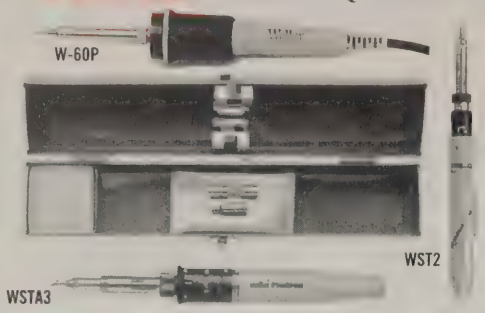
WELLER SOLDERING EQUIPMENT



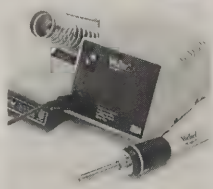
W-60P 60-Watt Pencil-type Soldering Iron For most electronic circuit work. Temperature controlled with tips available for 600°, 700°, or 800°F. Supplied with 1/16" 700°F screwdriver tip. Only 7½" long, 2½ oz. 6 ft. cord. 120VAC..... **$57.45**

WP-25 25-Watt Pencil-type Soldering Iron For work on more delicate electronic circuits. 750°F tip temperature. 7⅛" long, 1¾ oz. 4 ft. cord, 120V AC..... **$30.06**

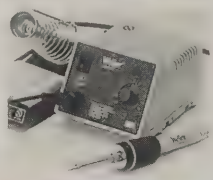
WSTA3 Pyropen® Butane Soldering Iron Lightweight and completely portable. Operates for up to 3 hours on a charge of cigarette lighter butane. Soldering temperature control is adjustable from 392° to 932°F, with fast heat-up time It's ready to solder in just 30-seconds! Supplied with tips for soldering, hot air (1202°F), and brazing..... **$89.95**

WST2 Pyropen® Jr. A portable mini butane powered soldering iron. Recharges in seconds from a regular cigarette lighter butane container. Soldering temperature is adjustable from 392° to 842°F. Also, hot blow feature (806°F) and torch feature (2372°F). Comes with handy pocket clip..... **$69.95**

7200PK Soldering Gun Compact, lightweight, 75 watts. Handles connectors and almost any other heavier soldering job. The flat, self-supporting back acts as a convenient rest when not in use. Comes with carrying case, extra tip, and solder, 120V **$25.46**



WTCPT Controlled Output Soldering Station Provides three temperature ranges: 600°F, 700°F and 800°F. This lightweight pencil iron is safe for IC soldering. Power unit with unitized on-off rocker switch with indicator light. Storage tray holds extra tip and tip cleaning sponge **$109.95**



EC-1002-1 Soldering Station Compact! The soldering pencil stand connects to right or left side of unit. Variable temperature, indicator light, self feeding reservoir. Handy tray stores extra temperature sensing tips **$199.95**

DIGITAL DOG

Complaint Dept. - Milwaukee Store

Call in the afternoon for the least chance of finding our phone lines busy!

WAHL SOLDERING EQUIPMENT

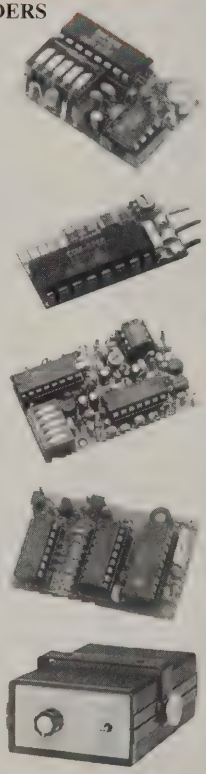
7740 Cordless Soldering Iron Tip performance up to 50 watts and over 700°! Contains a premium nicad battery for high-rate charging; a partially discharged unit will return to full capacity within 1–2 hours, with a complete recharge in 3–4½ hours. Replaceable battery and worklight. Comes with recharging stand, fine and heavy tips **$34.95**

7980 Butane-Powered Soldering Iron & Torch Cordless and refillable, features a rugged aluminum body and even-flow valve for uniform flame. Uses Readily available, standard high quality cigarette lighter butane. Provides up to 100 minutes of continuous solder per refill with adjustable tip temperatures up to 1067°F. Up to 60 minutes of continuous torch flame with adjustable temperatures up to 1300°F. Includes 2.4mm tip and a protective cap with igniter..... **$29.95**

7985 Butane-Powered Soldering Iron Kit Pack Soldering Iron/Torch in a convenient kit pack with protective igniter cap, torch attachment, 2.4mm and 1.00mm tips, wiping sponge/well, and in-use stand/rest in a carrying case... **$49.95**

Communications Specialists

TONE ENCODER & DECODERS



SS-32P Programmable CTCSS Encoder On board DIP switch programs 32 EIA tones from 67 to 203.5 Hz. Microminiature, fits inside most transceivers. 0.9" x 1.3" x 0.4", requires 6–30 VDC **$28.95**

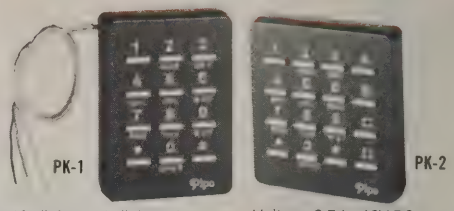
SS-32SMP Programmable CTCSS Encoder Super small for easy installation in most handhelds. Standard with 32 EIA tones between 67 and 203.5 Hz. Individual tones are selectable by soldering binary coded jumpers. 0.53" x 1.0" x 0.16", 6–15 VDC..... **$27.95**

TS-32P Field programmable CTCSS Encoder-Decoder DIP switch programmable for 32 EIA tones from 67 to 203.5 Hz. 1¼" x 2", 0.4", 6–25 VDC..... **$57.95**

DTD-1 DTMF Decoder Small, high quality and low cost. Decodes any one of 5,040 4-digit codes to provide a latched or momentary open collector output for single function operations. 1¼" x 2" x 0.4", requires 6–12 VDC **$59.95**

TE-32 Multi-tone Encoder Provides direct access from a front dial rotary switch to all EIA CTCSS tones from 67.0 to 203.5Hz, allowing users to access various repeaters Great for mobile or test bench. 5¼" x 3.3" x 1.7", 6–30 VDC..... **$49.95**

PIPO Communications

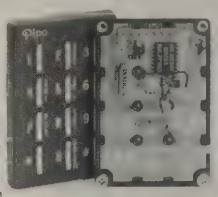


- 12-digit or 16 digit pads
- Steel Keys
- Sealed Cold Dome Contacts
- Self-contained
- NO RFI
- Simple 3-wire connection
- Voltage 8.5 to 16V DC
- Temperature -22 to +160 F
- Adjustable level and timing
- Front panel adjustable
- Includes template, hardware and schematic

• **PK-1** 2.65"h x 2"w x .045" – • **PK-2** 2.65"h x 2.5"w x 045"d

K-Series option: features a built-in keying circuit and relay to automatically key a transmitter or other system. When any key is depressed, a relay closes for 0–3 seconds, time is adjustable with a trimpot.

M-Series option: a special encoder package for mounting any PK-1/1K, PK-2/2K PIPO encoder to surfaces that are inaccessible from the rear such as walls, mobile dashboards, panels, etc. Consists of a frame which secures to the mounting surface with the encoder press-fitting into the frame.



P-7V Features similar to the K-Series but rugged-design for the demanding Land Mobile Industry. The choice for radios or systems exposed to harsh or abusive environments. Features miniature electronic design, low distortion, adjustable audio output 12-key, vertical. format, 2.16"h x 1.50"w x 0.20"d.

See **PIPO** in the Price List

TRANSMITTING TUBES

EIMAC

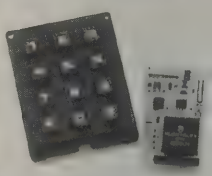
3-500Z... ea.	**$183.00**
3CX800A7	**469.00**
3CX1200A7	**665.00**
4CX250B/7203	**159.95**
8873	**489.00**
8874/3CX400A7	**469.00**
8875	**$599.00**
8877/3CX1500A7	**1099.00**

MISC.

6146B	**$14.95**
3-500G	**109.95**
572B	**49.95**
811A	**14.95**

TE-64 Multi-purpose Encoder Provides 64 frequencies which include 32 sub-audible, 19 burst-tone, 8 Touch-Tone® and 5 test frequencies. Separate outputs for high and low frequency ranges. 5¼" x 3.3" x 1.7", 6–30 VDC..... **$79.95**

ID-8 Multi-Featured Automatic Morse Station Identifier Programmable via 12-button keypad. Eight changeable messages, 200 characters total. CW speed: 1-99 wpm; ID interval timing: 1-99 minutes; ID hold-off timing: 0-99 seconds; CW tone: 100-3000Hz. Board: 1.85" x 1.12" x .0.35"..... **$89.95**



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Amateur Radio Equipment

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WRTC '96

HF Transceivers

FT-1000/D HF Transceiver

Judged "best overall" by top DX'ers worldwide, the FT-1000/D delivers optimum receiver performance and real "muscle" on transmit. With a front panel featuring two flywheel-weighted tuning knobs and two large displays, it's a perfect blend of ergonomics and electronics. Hear signals you've never heard before.

Features

- Frequency coverage:
  RX: 100 kHz-30 MHz
  TX: 160-10 m Amateur Bands
- RF Output Power Up to 200 Watts
- True Cross-band Dual Receive: Two Large Tuning Knobs
- Front Panel RX Antenna Switch: For Beverage or Loop
- Built-in Antenna Tuner w/32 Memories
- Direct Digital Synthesis (DDS)
- 100 Memory Channels: Independent ATU and Mode/IF Filter Memory
- CW Spot and Two CW Key Jacks for Maximum Convenience
- Dynamic Range: 108 dB
- Optional Digital Voice Recorder (DVS-2): 16 Sec. each RX/TX

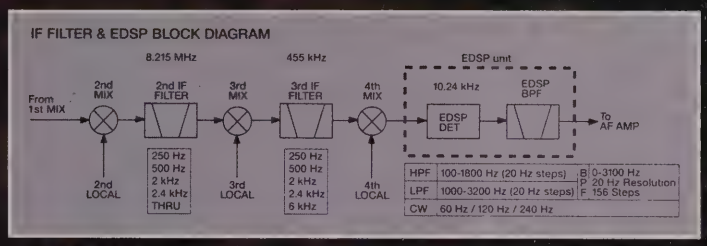
FT-1000MP HF All-Mode Transceiver

The FT-1000MP incorporates the front end design and dynamic range of the FT-1000/D and introduces Enhanced Digital Signal Processing (EDSP), a built-in Collins™ SSB Mechanical Filter for superior IF performance, and Direct Digital Synthesizers (DDS) to provide low noise and fine tuning steps. Unique Shuttle Jog™ Ring Tuning Knob enhances tuning flexibility, speed, and accuracy. As legendary as its namesake, JA1**MP**.

Features

- RX: 100 kHz-30 MHz
  TX: 160-10 m Amateur Bands
- Enhanced Digital Signal Processing
- Shuttle Jog™ Tuning Enhancement
- Collins™ SSB Filter Built-in
- Directional Tuning Scale for CW/Digital Modes and Clarifier Offset Display
- Dual In-Band Receive w/Separate "S" Meters
- Selectable Antenna Jacks
- Selectable Cascaded IF Filtering
- User Programmable Tuning Steps
- Custom Feature Set-Up via New Menu System
- Adjustable for Output, 5-100 W (5-25 W AM)
- True Base Station:
  100-117, 200-234 V AC and 13.5 V DC power inputs

ENHANCED DIGITAL SIGNAL PROCESSOR



EDSP™ operates in transmit and receive modes, producing enhanced signal-to-noise ratio and improved intelligence recovery on both ends of the communication path. EDSP provides 4 random-noise reduction settings, enhanced audio intelligibility with 4 voice response equalization programs, razor sharp CW band pass filters, and an automatic notch filter which identifies and attenuates carriers or heterodynes. Band pass selectable contour filtering offers high, mid and low cuts.

Hear signals you've never heard before.

HF Transceivers

FT-990 HF Transceiver

A self-contained base station with space-saving, built-in AC power supply, the FT-990 is incredible on a crowded band. Only HF with dual digital SCAF, its plug-in board design and simple front panel provide pure QSO enjoyment.

Features

- Frequency coverage:
  RX: 100 kHz-30 MHz
  TX: 160-10 m Amateur Bands
- Built-in dual Digital Switched Capacitance Audio Filters (SCAF)
- Built-in High Speed Antenna Tuner w/39 Memories
- RF Frequency-Shift Speech Processor (FSP)
- Dual VFOs w/Direct Digital Synthesis (DDS)
- 90 Memory Channels store Frequency, Mode, and Bandwidth
- Band Stacking VFO System
- Full and Semi Break-in CW Operation
- Multi-mode Selection on Packet/RTTY; easy interface to TNCs
- Adjustable RF Power
- Variable Threshold Noise Blanker
- Optional Digital Voice Recorder (DVS-2)
- Front Panel RX Antenna Selection
- DC Version Available without Power Supply

Inside COLLINS mechanical filter

FT-900/CAT
Compact HF Transceiver

The first HF compact base station to go mobile in any vehicle. Its remote front panel design and unique Omni-Glow™ LCD display, plus performance and ease of operation in one small package, make this transceiver the right choice for you.

Features

- Frequency coverage
  RX: 100 kHz-30 MHz
  TX: 160-10 m Amateur Bands
- Built-in Auto Antenna Tuner
- Direct Keypad Entry when used as a Base Station
- Omni-Glow™ LCD Display
- 100 W on SSB, CW, FM modes; 25 W on AM
- IF Shift and 30 dB Notch Filter
- Digital S/RF, SWR, & ALC Meters
- Programmable CTCSS Encode w/Repeater Offset
- Direct Digital Synthesis (DDS)
- 100 Memory Channels
- CW Full Break-in Keying w/Adjustable Speed
- Fast/Slow AGC Circuit
- Intercept Point Optimization (IPO)
- Duct Flow Cooling System
- Twin Band Stacking VFOs
- Built-in Noise Blanker
- Built-in Adjustable Speech Processor
- Built-in SSB Collins™ Mechanical Filter

FT-840 Compact HF Transceiver

A wealth of features and high-tech performance in the field or mobile. This HF won't break your budget! With its bright LCD display, die-cast heat sink and internal thermally switched fan, you'll take this perfect companion with you everywhere.

Features

- Frequency coverage:
  RX: 100 kHz-30 MHz
  TX: 160-10 m Amateur Bands
- Direct Digital Synthesis (DDS)
- IF Shift
- 100 Memory Channels (Independent TX/RX per memory)
- Twin Band Stacking VFOs
- FM Repeater Operation
- Automatic 10-Meter Repeater Offset w/Selectable CTCSS Encode
- CW Reverse Feature
- Choice of Two Optional Antenna Tuners:
  FC-10 Matching External Antenna Tuner
  FC-800 External Remote Antenna Tuner

FT-600 Compact HF Transceiver

The FT-600 combines the straightforward, practical layout of a commercial radio with the most-often-used features on the front panel. The simplicity of the front panel design includes two Up/Down buttons for frequency, memory, and band stepping, while four knobs control Clarifier, Volume, Squelch, and Tuning. Popular features include Direct Frequency Entry Keypad for quick QSY. 100 Watts Power Output—the benchmark for amateur HF operation. And, MIL-STD 810—to meet rugged commercial-grade construction standards.

Features

- Frequency Coverage
  RX: 50 kHz-30 MHz
  TX: 160-10 m Amateur Bands Only
- Direct Digital Synthesis (DDS)
- 100 Memory Channels (in 4 banks of 25)
- Direct Keypad Frequency Entry
- Alpha-Numeric Display
- Front Mounted Speaker w/High Audio Output
- MIL-STD 810 Rating
- Dual Watch
- Selectable Noise Blanker
- Omni-Glow™ Display

Features

- Frequency coverage:
  2 m: 144-148 MHz
  70 cm: 430-450 MHz
- 100 Memory Channels
- Full Cross-band Duplex with Inverted Tracking for transponders of satellite
- Easy Interface to TNC via Data In/Out Jack
- Independent Linear Amplifier Relay Control Lines (Each Band)
- Optional modules for 50-54 MHz, 222-225 MHz and 1240-1300 MHz
- RF Output Power:
  25 Watts on 144, 222, 430 MHz
  10 Watts on 50 and 1240 MHz

FT-736R
Multi-Mode VHF/UHF Full Duplex Base

Designed to meet the needs of the most demanding VHF/UHF and satellite operators, the FT-736R includes 144 and 430 MHz, and optional user-select 50, 220 or 1240 MHz modules. The FT-736R can be powered from 13.8 VDC or its built-in AC power supply.

Mobile Transceivers

FT-8500 Dual Band Mobile

This top-of-the-line, compact FM mobile includes extraordinary new features. Like Spectra-Analyzer™ to view station activity above and below a frequency, or within memory banks. And customize your radio by choosing the FS-10 Smart Controller™ Microphone or the MH-39 DTMF Microphone. The next generation is here!

Features

- Frequency coverage:
  2 m: RX: 110-174 MHz
  TX: 144-148 MHz
  70 cm: RX: 410-500 MHz
  TX: 430-450 MHz
- Built-in Spectra-Analyzer™
- 6-Character Alpha-Numeric Display
- 110 Memories (in 5 memory banks)
- Omni-Glow™ Display
- Digital Battery Voltage Display
- Dedicated Packet I/O Jack (1200/9600 baud
- 3-Level Auto-Mute with Mute Timer
- AM Aircraft Receive (110-136 MHz)
- V+V, U+U, or V+U Dual Receive
- 3 Selectable Power Output Levels
  2 m: 50/10/5 W
  70 cm: 35/10/5 W
- Auto Power Off (APO) and Time-Out Timer (TOT)
- 10-Memory DTMF Autodialer
- Cloning Feature
- 5 Scanning Modes including new Clear Sca
- Selectable Scanning Speed
- Cross-band and One-way Repeat
- Dual Speaker Jacks
- Easy-to Understand Feature Menu

FS-10 Smart Controller™ Microphone

Use the Joystick-type lever, or a variety of buttons and keys placed on each side of the microphone to access functions and features.

ADMS-2Windows™ Programming Software for FT-8500

Easy to install software permits assignment of frequencies, repeaters, and Alpha-Numeric labels from your computer. Simple to use "how to" instructions are included.

FT-8000R
Compact Dual Band Mobile

Continuing Yaesu's leading edge engineering philosophy, the FT-8000R Compact Dual Band Mobile introduces industry-first features and no-nonsense operation for today's demanding Amateur. No puzzling key combinations on the FT-8000R; eight clearly marked keys and Yaesu's exclusive Omni-Glow™ display make operation a snap. Want to change bands? Just push the VHF or UHF Volume control!

Features

- Frequency Coverage
  RX: 110-550 MHz
  750-1300 MHz*
  TX: 144-148 MHz
  430-450 MHz
- 3 Power Output Levels
  2m 50/10/5 Watt
  70cm 35/10/5 Watt
- 110 Memory Channels (55 per band, including "Home" channels)
- Enhanced Smart Search™
- CTCSS Encode
- Time-Out Timer (TOT)
- S-Meter Squelch
- Dual Receive (V+V,U+U,V+U)
- Crossband Repeat (bidirectional or one-way)
- PC Programmable w/optional ADMS-2C
- Intelligent Band Display (IBD)
- Receiver Muting
- Auto Power Off (APO)
- MIL-STD 810 Rating
- Omni-Glow™ Display
- 1200/9600 bps Packet Compatible
- Alternating-Band Memory Selection (ABMS)
- DTMF Autodialer (one memory per band)
- Accessories

*Cellular blocked.

FT-5100 Dual Band Mobile

Compact with a built-in antenna duplexer the FT-5100 defined "dual band" with two, 2-meter RX frequencies or two UHF frequencies. The FT-5100 is a small, light-weight dual-band that comes with its own backlit DTMF Mic. A formula that's hard to beat!

Features

- Frequency coverage
  2m: RX : 130-174 MHz
  TX : 144-148 MHz
  70 cm: RX/TX : 430-450 MHz
- 94 Memory Channels (47 per Band), Odd Splits on Any Memory
- Dual In-Band Receive (V/V, U/U or V/U Receive Operation)
- DTMF Paging and Coded Squelch
- Packet Radio TNC Jack Built-in to Back of Radio
- CTCSS Encode Built-in (Decode Optional)
- Dual Receive with Balance Control
- Full Duplex Cross Band Operation
- Built-in Cross Band Repeat
- Built-in Antenna Duplexer
- Backlit DTMF Mic
- Automatic 8 Level Display Dimmer
- RF Output Power:
  2 m: 50/5 Watts (high/low)
  70 cm: 35/5 Watts (high/low)

Mobile Transceivers

FT-3000M
High Powered 2-m FM Mobile

You know who you are. You drive farther, use your mobile rig longer, and buy the most dependable radio products you can get. The FT-3000M is the only amateur 2-m FM mobile radio with 70 full watts of TX power! Reassuring, when you're driving a lonely stretch of highway!

Like the 50-Watt FT-2500M, the FT-3000M is rated MIL-STD 810. And, both let you take the back roads with confidence. Built to resist jolts, bumps and the corrosive affects of dust, mist, and rain, the new FT-3000M, and popular FT-2500M take abuse and perform like champs. Plus, the FT-3000M is a great base, too.

Features

- Frequency Coverage
  Wide Band Receive
  RX:110-180 MHz
  300-520 MHz
  800-999 MHz*
  TX:144-148 MHz
- AM Aircraft Receive
- MIL-STD 810 Rating
- Interactive Programming
- High Power Output:
  70 Watts, Plus 50, 25 and 10 Watts
- Quick-Touch™ Dual Concentric Control Knob
- Twin Cooling Fans
- ADMS-2B Windows™ Programmable
- Digital Coded Squelch (DCS)
- 81 Memory Channels
- Auto Range Transpond System™ (ARTS™)
- 1200/9600 Baud Packet Compatible
- Smart-Search™
- Alpha-Numeric Display
- Dual Watch

* Cellular blocked.

Backlit DTMF Microphone

Exclusive to Yaesu, this backlit mic helps to insure safe autopatch operation in dim light and during night-time use. Designed for ease of use, the large keypad is invaluable. May be purchased separately. See Yaesu Amateur Products Accessories and Options Brochure for exact model number fitting your mobile.

Remote Control Wireless Mic

MW-2 (FT-5100)

No tangled cords to worry about, just step away from your mobile rig and talk. Perfect for "backseat" drivers or navigators. Available as an accessory.

FT-2500M/7400H
2-M/70-cm Mobiles

Nothing is tougher than the FT-2500M (and FT-7400H) when rough and rugged mobiles are needed. Huge LCD Display and backlit DTMF Mic make night-time operation safer. The FT-2500M is the first 2-meter amateur radio to be awarded a MIL-STD 810 rating for shock and vibration. Performance and strength for mobile or base station operation.

Features

- Frequency coverage:
  FT-2500M RX : 140-174 MHz
  TX : 144-148 MHz
  FT-7400H RX/TX : 430-450 MHz
- 31 Memory Channels, Odd Splits On Any Memory
- Alpha-Numeric Display
- Advanced Track Tuning (ATT)
- Automatic Display Dimmer
- True FM Modulation
- Backlit DTMF Mic
- CTCSS Encode Built-in (Decode Optional)
- Five Scanning Functions
- 3 Selectable Output Power Levels
  FT-2500M 50/20/5 Watts
  FT-7400H 35/15/5 Watts

FT-290/690/790RII
VHF/UHF Multi-Purpose Mobiles

Just sling it over your shoulder and go. To the top of the mountain or that remote campsite. True field operation performance for fun or serious emergency situations.

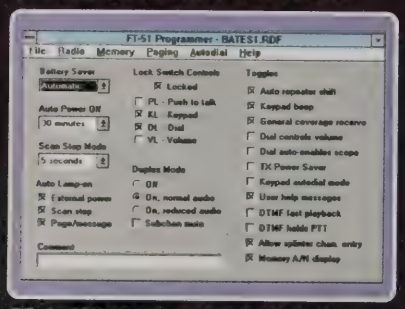
Features

- Frequency coverage:
  FT-290RII RX/TX: 144-148 MHz
  FT-690RII RX/TX: 50-54 MHz
  FT-790RII RX/TX: 430-450 MHz
- RF Output Power:
  FT-290RII 25 Watts (2 Watts Portable)
  FT-690RII 10 Watts (2 Watts Portable)
  FT-790RII 25 Watts (2 Watts Portable)
- All Mode Operation USB, LSB, CW, FM

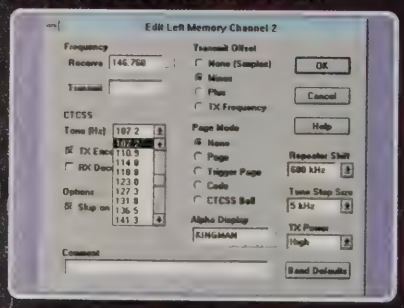
Handheld Transceivers

ADMS-1C
Windows™ Programming Software

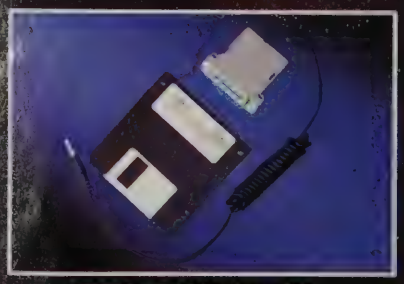
Program all the features for FT-51R, FT-50R, FT-11/41R, FT-10/40 with ADMS-1C Windows™ Programming Software. Just "point and click," and easy programming of these HTs is yours. Use to download from HT to PC, then clone the information to another FT-51R, FT-50R, FT-11/41R, or FT-10/40R HT instantly! Create memory files for cities you visit then load and go! Affordable for everyone, ADMS-1C Windows™ Programming Software is a neat little package that will change your HT use forever.



Main Window — Use the Main Window to customize your handheld the way you like it. For example, the Auto Repeater Shift and Keypad Beep tone can be selected "on" or "off." When you are scanning, the Display Lamp can be programmed to light up when a Busy Channel is found.



Memory Channel Edit Window — Each Memory Channel has a detailed window. With a simple click of the mouse, you can program the following for each memory: Frequency, Alpha Name, Repeater Offset, CTCSS, Power Level, Channel Step Size and more!



ADMS-1C Windows™ Programming Software Kit

FT-51R
Dual Band Handheld

The first dual band HT with scrolling instruction menu "windows"! Spectrascope™ too, for continuous real time activity scanning in VFO or 8 user-choice memories.

Features

- Frequency coverage:
  2 m: RX : 110-180 MHz
  TX : 144-148 MHz
  70 cm: RX : 420-470 MHz
  TX : 430-450 MHz
- 120 Memory Channels (80 w/Alpha-Numeric)
- Spectrascope™ LCD Display
- Scrolling User Help Menu
- 8 Character Alpha-Numeric Display
- Up/Down Volume/Squelch Controls & Display
- Selectable Sub-Band TX Mute
- Automatic Tone Search (ATS)
- Digital Battery Voltage Display
- AM Aircraft Receive
- Scanning Light System (SLS)
- Large Backlit Keypad & Display
- Automatic Repeater Shift (ARS)
- Multiple Scanning Modes
- 3 Selectable Scan Stop Modes with Scan Skip
- User Selectable Lock Function w/15 Combinations
- Automatic Power Off (APO)
- TX/RX Battery Savers Built-in
- Handy Cloning Feature
- 5 Selectable Power Output Levels
- Message System with CW ID
- Selectable RX Smart Mute™
- Cross-Band & One-Way Repeat Functions
- DTMF Paging/Coded Squelch Built-in
- 3 Dual Receive Configurations — VHF/VHF, UHF/UHF, & VHF/UHF

MH-29A2B Display Speaker Microphone LCD Display microphone with remote functions for mobile operation. Use with FT-51R.

FT-50R
Ultra Compact Dual Band Handheld

For the foremost in top-performing, durable, dual band handhelds there is one choice. The FT-50R. Manufactured to rigid commercial grade standards, the FT-50R is the only amateur dual band HT to achieve a MIL-STD 810 rating. Water-resistant construction uses weather-proof gaskets to seal major internal components against the corrosive action of dust and moisture. And, the rugged FT-50R withstands shock and vibration, so throw it in with your gear!

Features

- Frequency coverage
  Wide Band Receive
  RX : 76-200 MHz, 300-540 MHz, 590-999 MHz*
  TX : 144-148 MHz, 430-450 MHz
- AM Aircraft Receive
- MIL-STD 810 Rating
- Digital Coded Squelch (DCS)
- 112 Memory Channels
- 12V DC Direct Input
- High Speed Scanning
- Alpha-Numeric Display
- CTCSS Encode (Decode w/FTT-12)
- Auto Range Transpond System™ (ARTS™)
- Dual Watch
- Direct FM
- High Audio Output
- ADMS-1C Windows™ Programmable
- Four Battery Savers:
  Automatic Power-Off (APO)
  Receive Battery Saver (RBS)
  Selectable Power Output (SPO)
  Transmit Battery Saver (TBS)
- Time Out Timer (TOT)
- 2.5 and 5 Watt Versions Available
- Optional Digital Voice Recording System (DVRS)

FT-10/40R
Ultra Compact Handhelds

Built to military spec commercial radio standards inside and out, the FT-10/40R is feature-packed, and available in two standard versions. Three keypad options offer more features, or additional memory channels. Four choices!

Features

- Frequency coverage:
  FT-10R
  2 m: RX : 140-174 MHz
  TX : 144-148 MHz
  FT-40R
  70 cm: RX : 420-470 MHz
  TX : 430-450 MHz
- Choice of 4 keypads
  FTT-10/A16S
  FTT-10/A16D
  FTT-10/A16
  FTT-10/A06
- Auto Range Transpond System™ (ARTS™)
- MIL-STD 810
- High Audio Output
- 12 V DC Direct Input
- Alpha-Numeric Display
- RX/TX Battery Savers
- Digital Coded Squelch (DCS)
- Digital Voice Recording System (DVRS) w/FTT-10/A16S
- True FM for better voice clarity
- High Speed Scanning System
- 2.5 and 5 W available
- Full line of accessories

FTT-10/A16D
16-Key, CTCSS Enc/Dec, DCS Enc/Dec, 99 Channels

Handheld Transceivers

FT-11/41R
2-m/70-cm Handhelds

World's smallest size HT with a full sized keypad. You'll wonder how we did it, till you remember Yaesu pioneered 2-way radio micro technology. It's full-featured and pencil thin with a 4.8 V battery for 1.5 watts on TX. Just punch up the exclusive backlit DTMF keypad and Volume/Squelch control, set the alpha-numeric display and start talking!

Features

- Frequency coverage:
  FT-11R
  2 m: RX: 110-180 MHz
  TX: 144-148 MHz
  FT-41R
  70 cm: RX: 430-450 MHz
  TX: 430-450 MHz
- Selectable Alpha-Numeric Display
- Compact Battery Design
  4.8 V produces 1.5 Watts
  9.6 V produces full 5 Watts
- 150 Memory Channels
  (75 when Alpha-Numeric)
- AM "Aircraft" Receive (110-136 MHz)
- Small Size: 4"H x 2-1/4"W x 1"D
- Automatic Battery Saver (ABS)
- MOS FET Power Module
- Backlit DTMF Keypad and Display
- Backlit Up/Down Volume/Squelch Controls
- DTMF Paging/Coded Squelch
- Automatic Power Off (APO)

FT-411E/911
Compact FM Handhelds

For FM performance under strenuous climatic conditions, the FT-411E (and FT-911) stands up like the champ it is. Features and durability make this radio the choice of amateurs worldwide.

Features

- Frequency coverage:
  FT-411E 2 m: RX : 140-174 MHz
  TX : 144-148 MHz
  FT-911 23 cm: RX/TX: 1240-1300 MHz
- 49 Memory Channels
- CTCSS Encode/Decode Built-in
- Built-in VOX
- Backlit Keypad and Display
- Automatic Power Off (APO)
- Programmable Battery Saver
- Multiple Scan Modes

FT-23/33R
VHF/UHF FM Handhelds

Ultra compact and microprocessor controlled, these HTs offer the convenience of small size yet simple operation. Designed for years of rugged use, housing will withstand a standard EIA 1-meter drop test without a problem.

Features

- Frequency coverage:
  FT-23R 2 m: RX: 144-148 MHz
  TX: 144-148 MHz
  FT-33R 1.25 m: RX/TX: 222-225 MHz
- 10 Memory Channels
- Simple Operation
- Multiple Scan Modes
- Rugged Die-cast Frame

FRG-100
Communications Receiver

Winning the prestigious 1992 World Radio TV Handbook award for "Best Communications Receiver" when introduced is reason enough to make the FRG-100 your receiver. And if that's not enough, consider its industry-exclusive features like adjustable SSB carrier offset and user selectable 10 Hz, 100 Hz or 1 kHz tuning steps. Or the exciting Broadcast Band mode with 16 pre-programmed international broadcast bands. Even 50 memory channels and twin 12/24-hour clicks to keep you tuned in where and when you like — day or night! Join the experts and make the FRG-100 your "best communications receiver," too.

Features

- Frequency coverage: 50 kHz-30 MHz
- 50 Memory Channels
- Twin 12/24-Hour Clocks
- User Selectable Bandwidths
- Alarm and Timer Functions
- Dual Antenna Jacks (Coax and Open Wire)

Accessories

FM Unit-100: FM Receiver Unit
TCXO-4: Temperature Compensated Crystal Oscillator
PA-11B: 117 V AC Adapter
PA-11C: 220 V AC Adapter
YF-110C: CW Filter (500 Hz)
YF-110CN: CW Narrow Filter (250 Hz)

Specifications	
Frequency Range	50 kHz-30 MHz
Modes	USB, LSB, CW, AM, FM (optional)
Dimensions (W x H x D)	9¼ x 3⅝ x 9⅝ inches 238 x 93 x 243 mm

VHF/UHF REPEATERS

VXR-5000V
135-148 MHz 25 Watts

VXR-5000U
400-450 MHz 25 Watts

These compact synthesized DC-powered repeaters manufactured by Yaesu for their Vertex Radio Communications commercial product line are now available for amateur use. The repeaters can be wall mounted or installed in a standard 19" rack. (Optional mounting kit required.)

Specifications	
Frequency coverage	135-148 MHz or 430-450 MHz
Power Output	2-25 Watts @ 100% duty cycle
Current Consumption	7.0 A @ 13.8 V DC
Frequency Stability	±2.0 ppm, –30°C to +60°C
Programmable Features	Frequency, CTCSS, Hi/Low Power levels, Hang timer, Time-out timer
Programming	Optional VX VPL-1 programming kit

Rotators

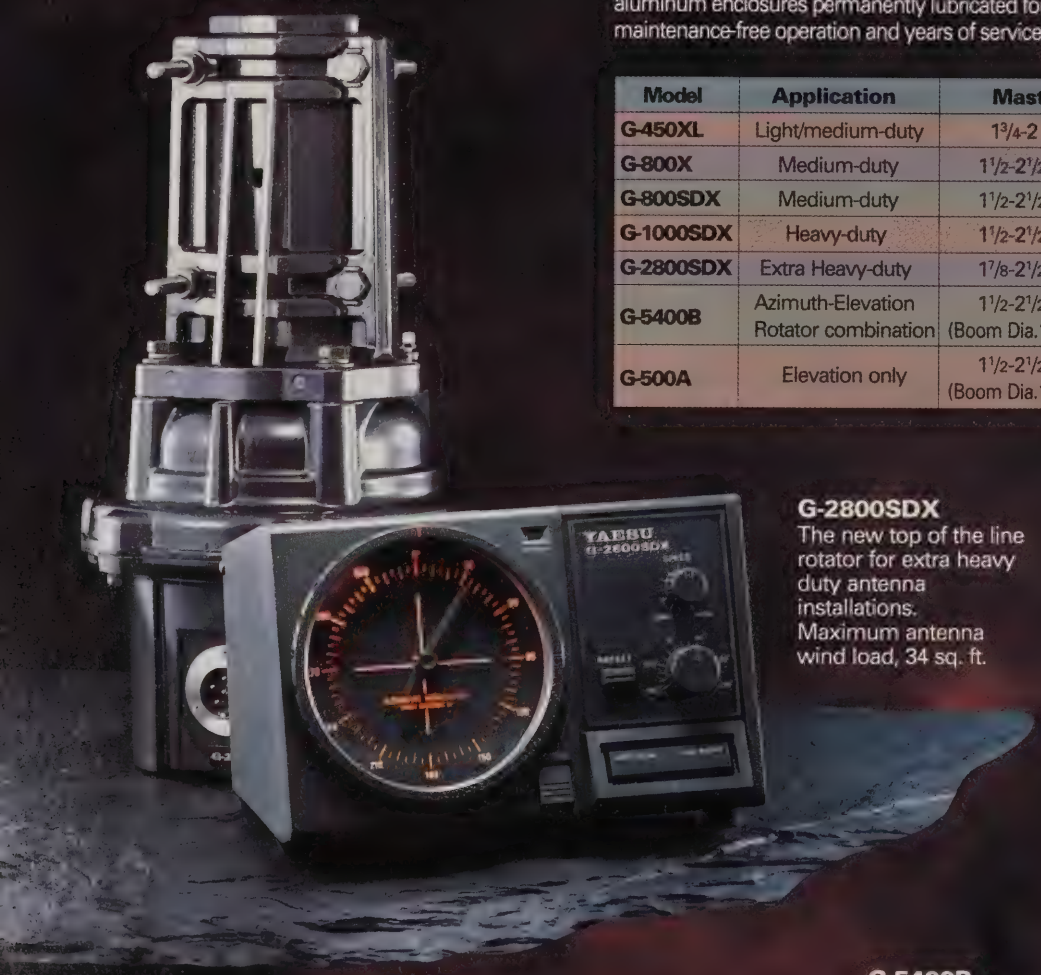
You're looking at the only rotators manufactured by a major amateur radio communication company.
Who better to determine the best specifications and durability for precision amateur radio performance under all circumstances? Smooth and quiet without noisy wedge brakes, these rotators are housed in weatherproof, die-cast aluminum enclosures permanently lubricated for maintenance-free operation and years of service.

Compatible with most U.S.A. made antenna tower accesory shelves, Yaesu rotators come with a One-Year Warranty.

Computer Controllers

Computer controllers for rotators now available.
GS-23 Computer Controller for Rotators: G-800SDX, G-1000SDX, G-2800SDX.
GS-232 Computer Controller for Satellite Rotator: G-5400B

Model	Application	Mast Size	Rotator Size	Pre-sets	Wind Load
G-450XL	Light/medium-duty	1 3/4-2 inches	12 1/2"H x 7 1/2" Dia.	No	10 Sq. Ft.
G-800X	Medium-duty	1 1/2-2 1/2 inches	12 1/2"H x 7 1/2" Dia.	No	17 Sq. Ft.
G-800SDX	Medium-duty	1 1/2-2 1/2 inches	12 1/2"H x 7 1/2" Dia.	Yes	17 Sq. Ft.
G-1000SDX	Heavy-duty	1 1/2-2 1/2 inches	12 1/2"H x 7 1/2" Dia.	Yes	23 Sq. Ft.
G-2800SDX	Extra Heavy-duty	1 7/8-2 1/2 inches	13 5/8"H x 8" Dia.	Yes	34 Sq. Ft.
G-5400B	Azimuth-Elevation Rotator combination	1 1/2-2 1/2 inches (Boom Dia.1 1/4-1 5/8 in.)	Mounted together 12 1/2"H x 7 1/2" Dia.**	No	11 Sq. Ft.
G-500A	Elevation only	1 1/2-2 1/2 inches (Boom Dia.1 1/4-1 5/8 in.)	10 1/2"H x 7 1/2" Dia.	No	12 Sq. Ft.



G-2800SDX
The new top of the line rotator for extra heavy duty antenna installations.
Maximum antenna wind load, 34 sq. ft.

Accessories:

GC-038 Mast Clamp, **GC-048** Mast Clamp, **GS-050** Thrust Bearing, **GS-065** Thrust Bearing, Not Shown: G-800S, G-800SDX, G-1000SDX,
**Wind load ratings are valid when rotator is mounted in tower.*
***Rotator size mounted together.*

G-450XL
A new entry-level rotator priced low, for light to medium duty antennas. Maximum antennas wind load, 10 sq. ft.

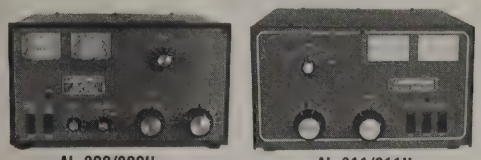
G-500A
Elevation rotator for space communication antennas.
Maximum antenna wind load, 12 sq. ft.

G-5400B
Azimuth-Elevation combination for space communication antennas. DIN connection provided for computer operation. Maximum antenna wind load, 11 sq. ft.

Power Amplifiers...

AMERITRON HF AMPLIFIERS

▶**ALS-600** No tune, solid-state FET linear with continuous coverage 1.5–22MHz; 10/12M with easy-to-install optional kit*. 100W drive for 600W PEP SSB, 500W CW output. Illuminated Cross-Needle SWR/Wattmeter, SWR and overload protection, front panel ALC control. Transmit, ALC, SWR LED indicators. Includes separate 110/220V power supply. Both units are 6"h x 9½"w x 12"d, 48 lbs (total) **$1099.00**



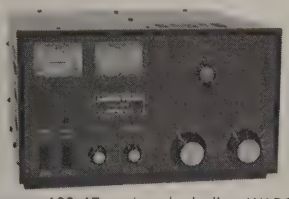
AL-800/800H AL-811/811H

▶ **AL-800** Covers 160-12M; owner modifiable for 10M* Uses single 3CX800A7 tube , 1200 watts output **$1429.00**

▶**AL-800H** Covers 160-12M; owner modifiable for 10M* Uses two 3CX800A7 tubes, 1500 watts output..... **$2059.00**

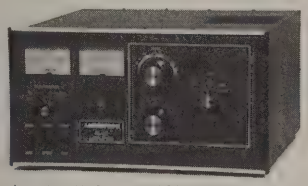
▶**AL-811** Low cost Desktop linear! Covers 160-12M; owner modifiable for 10M* Uses three 811A tubes with tuned input to deliver 600W PEP SSB/500W CW output with 75W drive. Vernier drive plate tuning, illuminated grid and plate voltage/current meters, adjustable ALC. Built-in 110/220V power supply. 16"d x 13¾"w x 8"h, 40 lbs **$589.95**

▶**AL-811H** Similar to AL-811, but uses four 811A tubes for 800W PEP SSB output with 75W input..... **$719.95**



▶**AL-80B** Covers 160-15 meters including WARC and MARS; bands. Modifiable for 10/12 meters*. Single 3-500Z; 85W drive – 1KW PEP SSB and 850W CW output. Dual illuminated cross-needle meters, QSK compatible.Built-in 110/220V supply. 14"w x 8"h x 15½"d, 52 lb..... **$1069.00**

AL-82
AL-1200
AL-1500
similar in appearance

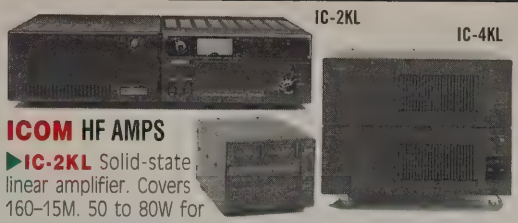


▶**AL-82** Full legal output! Covers 160-12M; owner modifiable for 10M*.Uses two Eimac 3-500Z tubes and separate CW/RTTY or SSB bias settings. 100W drive – 1500W continuous output. Built-in power supply with Hypersil® transformer, 220V–15A. 10"h x 17"w x 18"d, 76 lbs **$1769.00**

▶**AL-1200** Full legal output! Covers all ham bands 1.8–21MHz + WARC bands; owner modifiable for 10M*. Single Eimac 3CX-1200A7 ceramic tube requires 100W drive for 1500W output. Heavy silver-plated tank components, built-in heavy-duty power supply with Hypersil® transformer, 220V–15A. 10"h x 17"w x 18"d, 83 lbs **$1849.00**

▶**AL-1500** Full legal output! Covers 160-12M; owner modifiable for 10 meters. Uses a single Eimac 8877 ceramic tube to deliver 1500W+ output with only 65W drive. Heavy-duty built-in power supply with Hypersil® transformer, 220V–15A. 10"h x 17"w x 18"d, 77 lbs. **$2269.00**

▶**ALS-500M** No tune-up, solid-state FET linear amplifier. Ideal for high-powered mobile operation. Continuous coverage 1.5 to 22MHz; 10/12M with optional kit*. Four 2SCC2879's deliver 500W PEP SSB, 400W CW with less than 100W drive. SWR/overload protection, remote ON/OFF control. Requires 13.8VDC @ 80A peak for PA, 12-15VDC @ 4A for control and bias. 3½"h x 9"w x 15"d, 7 lbs **$679.95**



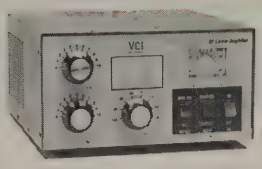
IC-2KL IC-4KL

ICOM HF AMPS

▶**IC-2KL** Solid-state linear amplifier. Covers 160–15M. 50 to 80W for 600W PEP SSB/500W CW output. Separate RF and power supply decks. Automatic band switching operation when using with an ICOM transceiver. 110V–20A (220V with modification). Both units are: 4½"h x 9½"h x 15½"d, 45 lbs (total) **$2459.95**

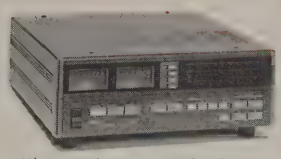
▶**ICOM IC-4KL** Solid-state linear with separate control and RF units. Covers 160–12M. Four 8 transistor modules, 100W drive – 1000W output Built-in automatic antenna tuner with memory, QSK full-break-in CW. Dual meters for SWR, final amp current and temperature, and output. Automatic operation with ICOM xcvrs. 110V or 220V. Controller: 5¾"h x 7¾"w x 13½"d, 66 lbs. Amp/Ps: 11¾"h x 16¾"w x 18"d, 79 lbs..... **$7999.95**

VECTRONICS HF AMPLIFIER



▶**HF-600QSK** 1.2 KW desktop linear. Covers 160–15M including WARC and MARS; user modifiable for 12 and 10 meters. Class AB₂ grounded grid circuit, 3-500Z zero-bias triode. Tuned input, 60W (minimum) drive for 800W output-Continuous Duty SSB; 50% other modes. Cross needle metering system, adjustable ALC, vernier tuning and loading, high speed dual vacuum relay system for CW, AMTOR, RTTY. 7½"h x 14"w x 16½"d, 35 lbs..... **CLOSEOUT $1449.95**

YAESU HF AMPLIFIER



▶**FL-7000** 160–12M solid-state amplifier. Built-in automatic antenna tuner and power supply. 70W drive for 600W output. Full break-in CW, HF Packet and AMTOR. Tuner memory for settings and antenna selection. Amplifier turns off and attempts to rematch if SWR exceeds 2:1. Automatic selection of four different antennas with optional unit. Automatic band change with YAESU xcvrs; 110/220V. 5"h x 15"w x 15"d, 60 lbs..... **$2199.95**

RF CONCEPTS VHF/UHF AMPS

Single and Duobanders
12V DC • FM/CW/SSB modes • GaAsFET preamp • Overdrive protection

Model	input	output	amps	Price
2-meters				
2-23	0.2-5W	30W @ 2W in	5	c/o $119.95
MAXAMP-10	10W	150W+	25	319.95
MAXAMP-45	40W	150W +	22	289.95
VHF 1-60*	1W	60 @ 1W in	10	c/o 199.95
220MHz				
3-22	5W	20W	4	c/o $119.95
3-211	2W	110W	22	c/o 269.95
3-112	0.2-15W	120W @10W in	12	c/o 269.95
3-312	30W	120W	22	c/o 299.95
440MHz				
4-32	3W	20W	4	c/o $129.95
4-110	10W	100W	22	359.95
4-310	30W	100W	20	339.95
UHF-50*	3W	50W	10	c/o 249.95
Dual Band - 2m/440 MHz				
2/70*	3W/5W	30W/20W	6	$239.95
2/70G	3W/5W	30W/20W	6	259.95

*Denotes No Receiver Preamplifier

New! **Mini-AMPS**

144 2 Meters	2W	30W	6	$109.95
144P	2W	30W	6	119.95
440 440MHz	3W	20W	6	129.95
440P	3W	20W	6	149.95

(P) Denotes with Preamplifier and Receive Filter

MIRAGE VHF/UHF AMPLIFIERS

Add a MIRAGE amplifier to your rig for 30 to 600 watts of BRUTE POWER! Models for 6 meters through 70 cm – Base, Mobile, Repeater or ATV operation. *Features:* • 12V DC • FM/SSB/CW modes • Continuous duty • 20dB GaAsFET preamp • Overdrive and High-temperature protection • Remote control capability

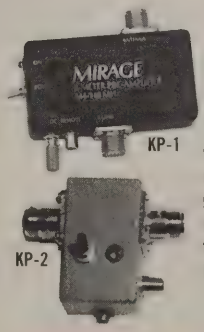
Model	MHz	input	out	amps	preamp	SALE
A-1015G	50-54	10W	150W	23	yes	$349.95
A-1035G	50-54	10W	350W	23*	yes	589.95
B-215G	144-148	2W	150W	20	yes	339.95
B-108G	144-148	10W	80W	12	yes	204.95
B-1016G	144-148	4W	100W	25	yes	339.95
B-1030G	144-148	10W	300W	48	yes	619.95
B-1060G	144-148	10W	600W	52*	yes	989.95
B-2516G	144-148	30W	160W	25	yes	269.95
B-2530G	144-148	30W	300W	48	yes	619.95
B-2560G	144-148	25W	600W	52*	yes	989.95
B-5016G	144-148	50W	160W	24	yes	269.95
B-5030G	144-148	50W	300W	48	yes	599.95
B-5060G	144-148	50W	600W	45*	yes	989.95
C-22	222-225	2W	20W	5	no	$119.95
C-22G	222-225	2W	20W	5	yes	154.95
C-211G	222-225	2W	110W	20	yes	299.95
C-106G	222-225	10W	60W	12	yes	214.95
C-1012G	222-225	10W	120W	5	yes	299.95
C-1022G	222-225	10W	220W	20*	yes	589.95
C-2512G	222-225	30W	120W	20	yes	289.95
C-2522G	222-225	30W	200W	42	yes	589.95
C-5012G	222-225	50W	120W	20	yes	c/o 279.95
C-5022G	222-225	50W	240W	42	yes	c/o 529.95
D-15N	425-450	2W	15W	3	no	$169.95
D-26N	430-450	2W	60W	12	no	244.95
D-1010N	430-450	10W	100W	15	no	354.95
D-3010N	430-450	30W	100W	20	no	329.95
D-100-ATVN	430ATV	1W	52W	20	no	369.95
D-1010ATVN	430ATV	10W	100W	20	no	369.95

*at 28VDC N denotes Type-N connectors

RC-1 Remote Control Head • for all Mirage amplifiers except the B-23S, B-23G, C-22G and D-26N..... **$45.00**

New! **MIRAGE COMPACT VHF/UHF AMPS**

B-34 2M FM 2W in/30W out..... **$ 79.00**
B-34G 2M FM 2W/30W with preamp **99.00**
BD-35 *Dual Band* 45W 2M/25W 440MHz..... **179.95**
B-310G 2M FM 4W in/100W out..... **179.95**



KP-1

KP-2

MIRAGE GaAsFET Preamps for 10, 6, 2, 1¼ m & 70 cm

High Gain, Ultra Low Noise GaAS FET preamps help you receive weak signals. Automatic switching up to 160 watts. KP-1 and KP-2 styles. Choose in-shack model or mast mount. Includes remote control model to reduce loss. See MIRAGE in Price List

See MIRAGE in the Price List

RF Limited VHF & UHF AMPLIFIERS

See Index for RF Limited amplifiers display ad elsewhere in this catalog.

600 WATTS . . . $589.95

AES SPECIAL!

More hams use Ameritron AL-811 amplifiers than any other amplifier in the world . . . The AL-811 has earned a worldwide reputation for legendary quality, flawless performance, proven reliability and superb customer service . . .

Ameritron AL-811 linear amplifier gives you plenty of power to bust thru QRM.

You get a quiet desktop linear that's so compact it'll slide right into your operating position -- you'll hardly know it's there . . . until QRM sets in. And you can conveniently plug it into your nearest 120 VAC outlet -- no special wiring needed.

You get three tough 811A transmitting tubes, extra heavy duty power supply, all HF band coverage, pressurized ventilation, tuned input, dual illuminated meters, adjustable ALC and much more . . . for an incredible $589 . . .

In Stock for immediate shipment!

The first 600 watts makes the difference

The AL-811 gives you 600 watts PEP output -- that's nearly 2 full S-units over your barefoot rig.

That could mean the difference between hearing, "You're Q-5 armchair copy" and, "Sorry can't copy you, too much QRM."

Now you won't have to stand aside while the "big guns" steal your DX. You'll be able to log some of those stations first.

Going from 600 watts to the full legal limit gives you less than one S-unit increase. But is that fraction of an S-unit worth the 3 to 4 times more money it'll cost you?

The AL-811 gives you a powerful punch at a price that's easy on your wallet.

All band, All mode coverage

The AL-811 covers all HF bands. There's no compromise on WARC and most MARS bands -- you get a 100% rated output.

You can operate the AL-811 on all modes. Get 600 watts output PEP SSB and 500 watts output CW. You even get 400 watts on demanding continuous carrier modes like RTTY, SSTV, FM and AM.

How the low cost 811A tube resists premature failure - - even when your amplifier is mistuned

First, they're constructed with widely spaced elements that minimize the chance of elements touching and causing a short -- even if the plate gets hot enough to melt.

Second, they use a directly heated thoriated tungsten filament cathode that prevents the electron emitting layer from instantly stripping off -- even if mistuning causes a sudden, severe current overload.

The Ameritron AL-811 is excellent for the newcomer because it's tough enough to withstand momentary mistuning. And the tubes are so inexpensive that you can replace one for mere pocket change.

The Ameritron advantage: Extra heavy duty power supply gives you peak performance year after year

The heart of the AL-811 power supply is its heavy duty power transformer with a *high silicon steel* core weighing a hefty 17 pounds.

A full wave bridge using 52.5 ufd of total capacitance (four 210 ufd, 470 volt capacitors) produces 1500 volts under full load and 1700 volts no load. That's excellent high voltage regulation!

Full height computer grade filter capacitors with screw terminals are used -- *not* short stubby, light duty soldered-in ``high technology" capacitors that can't dissipate the heat generated by high current.

The rectifier diodes are rated for a massive surge current of 200 amps. They won't blow even if you accidentally short the high voltage supply.

Wire wound, 7 watt, 50 K ohm equalizing resistors safely protect each filter capacitor -- *not* 2 watt, 100 K ohm carbon composition resistors that can open and cause your filter capacitors to explode or fail.

The Ameritron AL-811 power supply is built tough so you get peak performance year after year.

Tuned input provides excellent load for any rig

A Pi-Network tuned input provides a 50 ohm load for your rig. Even fussy solid state rigs can deliver their full drive to AL-811.

Low loss slug tuned coils -- tunable from the rear panel -- let you optimize performance. High quality low drift silver mica capacitors maintain proper tuning.

Output tank: optimum Q on each band

The low loss pi-network output tank of the AL-811 has been carefully designed for optimum Q on each band and built with quality RF components.

The result is peak performance over each band, wide impedance matching range and exceptionally smooth tuning with efficiencies close to 70%. Even a 3:1 SWR load won't damage the tubes or tank components.

A ball bearing vernier reduction drive makes plate tuning precise and easy.

Quiet pressurized ventilation keeps your tubes safely cooled

A *quiet* blower pressurizes the cabinet with a large volume of air flow. It keeps the 811A tube temperature *well below* the tube manufacturer's rating -- even with a key down carrier at 400 watts output -- without the *overwhelming* noise of oversized fans.

Two illuminated meters

Two illuminated meters give you a clear picture of your AL-811 operating conditions so you can tell right away if something is wrong.

The Grid Current meter *continuously* checks for improper loading. The other meter switches between high voltage and plate current to warn of abnormal conditions.

Ameritron exclusive Adapt-A-Volt™ power transformer

Too high line voltage stresses components and causes them to wear out and fail. Too low line voltage causes a "soft-tube" effect -- low output and signal distortion.

Ameritron's exclusive *Adapt-A-Volt™* power transformer has a special buck-boost winding that lets you compensate for stressful high line voltage and performance robbing low line voltage.

This makes your components last longer and gives you peak performance -- regardless of your line voltage.

Plus more . . .

An Operate/Standby switch lets you run barefoot, but you can instantly switch to full power if needed.

A transmit LED tells you when your rig is keying your AL-811.

A 12 VDC keying relay makes it compatible with all solid state and tube rigs. A built-in back-pulse cancelling diode protects your rig's keying circuit.

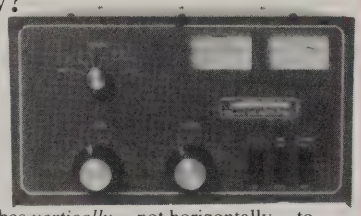
Shielded RF compartment. One year limited warranty. Compact 16" D x 13¾" W X 8" H. 30 pounds. UPS shippable. Shipped with transformer installed and wired for 120 VAC. Draws 8 amps at 120 VAC. Export model AL-811X wired for 240 VAC and includes 10 and 12 meters.

Made in USA

Made in USA. At Ameritron, we don't just ship amplifiers we build them to last.

800 WATTS . . . $719.95

Ameritron gives you *four* 811A tubes, 800 watts at a much lower price than the competitor's *3* tube 600 watt unit . . . Why settle for *less* power and pay *more* money?



Only the Ameritron AL-811H gives you *four fully neutralized* 811A transmitting tubes. You get absolute stability and superb performance on higher bands that can't be matched by un-neutralized tubes.

Ameritron mounts the 811A tubes *vertically* -- not horizontally -- to prevent hot tube elements from sagging and shorting out. Others, using *potentially damaging horizontal mounting*, require special 811A tubes to retard sagging and shorting.

A *quiet*, powerful computer grade blower draws in plenty of cool air. It pressurizes the cabinet and efficiently cools your 811A tubes. Our air flow is so quiet, you'll hardly know it's there-- unlike noisy, oversized blowers.

You also get efficient full size heavy duty tank coils, full height computer grade capacitors, heavy duty high silicon core power transformer, slug tuned input coils, operate/standby switch, transmit LED, ALC, dual meters, QSK compatibility with QSK-5 plus much more.

Call AES for all your Ameritron needs

AES/AMERITRON . . . we're family

AES sells more Ameritron amplifiers than any other dealer in the world! We've been carrying quality Ameritron products since its beginning . . .

AMERITRON®

. . . the high power specialists

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Free Catalog - 800-647-1800

8 a.m. - 4:30 p.m. CST, Monday - Friday

Prices and specifications subject to change © 1996 Ameritron

http://www.ameritron.com

MIRAGE . . . 100 Watts . . . $179.95

AES SPECIAL!

Boost your 2 Meter handheld or multimode (like ICOM 706) to a super powerful 100 watts . . . All modes: FM, SSB, CW . . . 15 dB GaAsFET receive preamp . . . Reverse polarity protection . . . Silent cooling fan . . . Free HT-to-amp coax and mobile bracket

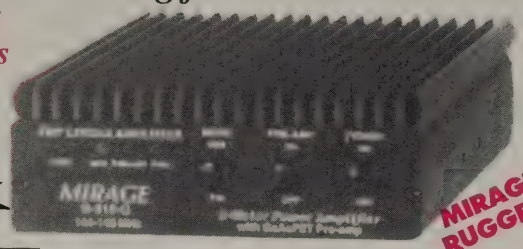
The world's most rugged VHF/UHF amplifiers from the world's largest ham dealer . . .

AES SPECIAL PRICE

$179.95

NEW!

B-310-G



MIRAGE RUGGED!

Power Curve -- typical B-310-G output power							
Watts Out	25	50	75	95	100	100+	100+
Watts In	1/4	1/2	1	2	4	6	8

For an incredibly low $199, you can boost your 2 Meter handheld to a super powerful 100 watt mobile or base!

Turn "You're breaking up . . . Can't copy" into "Solid Copy . . . Go ahead."

Talk further . . . Reach distant repeaters . . . Log onto faraway packet bulletin boards.

This rugged Mirage B-310-G amplifier operates *all modes*: FM, SSB and CW. It's perfect for *all* handhelds up to 8 watts *and* multi-mode SSB/CW/FM 2 Meter rigs.

***It's** great for the ICOM IC-706 -- you'll get 100 blockbuster watts on 2 Meters!*

Low noise GaAsFET pre-amp

A built-in *low noise* GaAsFET receive pre-amp gives you 15 dB gain -- lets you dig out weak signals.

Fully Protected

***SWR** Protection* prevents damage from antennas whipping in the wind. *Reverse Polarity Protection* can save your amp if you connect power backwards.

Compact but Powerful

Mirage's integrated *HeatsinkCabinet™* and whisper quiet fan gets heat out fast!

The results? An *ultra-compact* 4 3/4x1 3/4x7 3/4 inch 2 1/2 pound amplifier that delivers a *super powerful* 100 watts.

Free Accessories

Free 3 foot handheld to B-310-G coax cable -- just plug and play! ***Free*** mobile bracket! ***Free*** rubber mounting feet for home use!

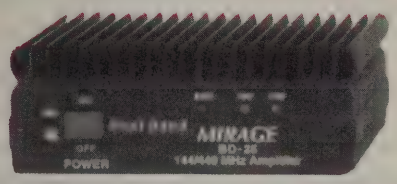
Plus more . . .

Automatic RF sense Transmit/Receive switch. Remote keying jack. LEDs monitor "On Air", high SWR, pre-amp, power. Push buttons select SSB/FM, pre-amp, power. Draws 15 amps at 12-15 VDC.

Full one year MIRAGE warranty

***With** Mirage's legendary ruggedness, you may never need our superb warranty.*

Dual Band 144/440 MHz Amp



$179.95 BD-35 AES PRICE

MIRAGE RUGGED!

Power Curve -- typical BD-35 output power							
Watts Out (2Meters)	30	40	45	45+	45+	45+	45+
Watts Out (440 MHz)	16	26	32	35+	35+	35+	35+
Watts In	1	2	3	4	5	6	7

***Add** this Mirage dual band amp and boost your handheld to 45 watts on 2 Meters or 35 watts on 440 MHz!*

Works with all FM handhelds up to 7 watts. Power Curve chart shows typical output power.

Full Duplex Operation

Mirage's exclusive *FullDuplexAmp™* lets you talk on one band and listen on the other band at the same time -- *just like a telephone conversation!* (Requires compatible HT)

Mirage is the Best! Here's why . . .

- ***Automatic frequency band selection*** --you'll never forget to switch bands
- ***Single input connector and single output connector for both bands*** -- easy to use with dual band radios and antennas
- ***First-class strip-line techniques*** -- superb RF performance and reliability
- ***Custom wrap-around heatsink*** -- runs cool
- ***Reverse Polarity Protection*** -- saves your amp if you connect power backward
- ***Automatic RF sense Transmit/Receive switch*** -- makes operation easy
- ***Low input SWR*** -- keeps your handheld safe from overheating
- ***"On Air" LEDs*** -- for each band
- ***Free mobile mounting bracket***
- ***Free 3 foot handheld-to-BD-35 coax cable***
- ***Small size:*** just 5x1 3/4x5 inches
- ***Full one year MIRAGE warranty***
- ***Legendary MIRAGE ruggedness***

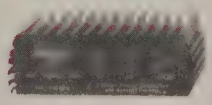
AES sells the most Mirage amplifiers . . .

35 Watts for 2 Meter HTs

B-34-G

$99.95

AES PRICE



Power Curve -- typical B-34-G output power								
Watts Out	18	30	33	35+	35+	35+	35+	35+
Watts In	1	2	3	4	5	6	7	8

- ***35 Watts Output on 2 Meters***
- ***All modes: FM, SSB, CW***
- ***18 dB GaAsFET preamp***
- ***Reverse polarity protection***
- ***Includes mobile bracket***
- ***Auto RF sense T/R switch***
- ***Custom heatsink, runs cool***
- ***Works with handhelds up to 8 watts***
- ***One year MIRAGE warranty***

MIRAGE RUGGED!

35 watts, FM only . . . $79.95

B-34, $79. 35 watts out for 2 watts in. Like B-34-G, FM only, less preamp, mobile bracket. 3 1/8x1 3/4x4 1/4 inches.

160 Watts on 2 Meters!

B-5016-G

$269.95

Suggested Retail

MIRAGE RUGGED!

Power Curve -- typical B-5016-G output power								
Watts Out	130	135	140	145	150	155	160	165
Watts In	20	25	30	35	40	45	50	55

The MIRAGE B-5016-G gives you 160 watts of brute power for 50 watts input on all modes -- FM, SSB or CW!

Ideal for 20 to 60 watt 2 Meter mobile or base. *Power Curve* chart shows typical output power.

Hear weak signals -- low noise GaAsFET preamp gives you excellent 0.6 dB noise figure. Select 15 or 20 dB gain.

B-5016-G has legendary ruggedness. *We know of one that has been in constant use since 1979!*

Heavy-duty heatsink spans entire length of cabinet -- prevents overheating. Power transistors protected by MIRAGE's *Therm-O-Guard™*.

Fully protected from high SWR and excessive input power. Has warning LED.

Has smooth adjustable Transmit/Receive switching with remote external keying.

RC-1, $45, Remote Control. On/Off, pre-amp On/Off, selects SSB/FM. With 18-ft cable.

Draws 17-22 amps at 13.8 VDC. 12x3x5 1/2 in.

More 160 Watt, 2 Meter Amplifiers . . .

B-2516-G, $269.95. For 10 to 35 watt mobile or base stations. 160 watts out for 25 watts in.

B-1016-G, $339.95. MIRAGE's most popular *dual purpose* HT *or* mobile/base amplifier. 160 watts out/10 W in. For 0.2-15 watt transceivers.

B-215-G, $339.95. MIRAGE's most popular *handheld* amp. 150 watts out/2 watts in; 160 watts out/3 1/2 W in. For 0.25 to 5 watt handhelds.

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Technical: 601-323-8287 Fax: 601-323-6551

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COMMUNICATIONS EQUIPMENT
300 Industrial Park Road
Starkville, MS 39759, USA

MIRAGE . . . the world's most rugged VHF/UHF amplifiers

ALPHA DELTA COMMUNICATIONS, INC.

OUTbacker®

HF Mobile Antennas

• HAM – MARS – CAP – MARINE/ITU • LOW SWR
• WIDE BANDWIDTH • NO CHANGING COILS

It's plug-n-play!

Performance *plus* Convenience...

including HF + 6&2M

Whether mobile...

or backpack portable!

OUTBACKER shown with optional spring/base, mount and cable

The OUTBACKER – Constructed of fiberglass with pretuned copper helical windings and covered with smooth epoxy-resin and a coating of polyurethane for strength, and durability. The mounting ferrule is nickel-plated brass with standard 3/8x24 threads.

Frequency coverage is broadbanded but the top spike is adjustable which allows tuning for the lowest possible VSWR on 75M and the upper end of 10M.

Tap points are clearly engraved for each band. Changing bands is accomplished manually by simply plugging the unique OUTBACKER "Wander lead" into the proper tap; for 75M the lead is removed entirely.

Beautiful, shiny black finish. 8 models, with optional spring/base, mounts and cable.

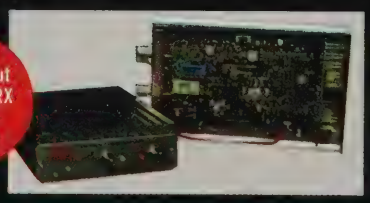
	Description	AES Model #	Price
OUTBACKER PERTH	75-10M + WARCs, 150W P.E.P • 7.5 ft. tall • 3.5 ft. stinger retracts into 4 ft. mast for garaging	Perth	$289.00
OUTBACKER PERTH PLUS	75-10M *plus* 6 & 2M • 6 ft. tall • Perfect for HF+VHF radios: IC-706, DJ-70T, etc.	Perth Plus	$299.00
OUTBACKER 8	75-10M, 300W P.E.P • 6 ft. tall	OB-8	$279.00
OUTBACKER HP	75-10M • High-power – 500W P.E.P. • 6 ft. tall	OB-8HP	$299.00
OUTBACKER SPLIT	75-10M, 300 W P.E.P • 6 ft. tall • Breaks down into 2-3 ft. sections for easy transport, pouch included.	OB-S8	$299.00
OUTBACKER TRI-SPLIT	Same as OUTBACKER SPLIT except breaks down into 3-2 ft. sections, storage pouch included	OB-8TRI	$329.00
OUTBACKER MARINER	Covers ITU Marine: 2.182, 4.1, 6.2, 8.2, 12.4, 16.5, & 22.1MHz and Ham bands: 75, 40, 20,17 &10M	OB-M	$429.00
OUTBACKER JR PLUS	75-10M *plus* 6 & 2M • Only 4 ft tall, 150WP.E.P.• Perfect for use with HF+VHF radios: IC-706, DX-70T, etc.	JUNIOR PLUS	$269.00
OUTBACKER Spring/Base	HEAVY DUTY • Nickel/zinc plated • 3/8-24 threads • SO-239 connector • Requires 1/2" hole for mounting	OB-SB	$99.00
OUTBACKER OB-360	Trunk lip mount with spring for Perth/JR8Plus/Perth Plus	OB-360	$99.00
DIAMOND K-400/3/8C	Diamond 3/8x24 thread trunk-lip mount with 6 ft. coaxial cable for all OUTBACKER models	DiaK400-3/C	$69.95
DIAMOND C-110	Diamond 10 ft. extension cable for K-400/3/8C trunk-lip mount	C-110	$14.95

POWER PLUS AMATEUR RADIO EQUIPMENT

HL-35V 2M LINEAR AMPLIFIER

Frequency Coverage ..... 144 to 148MHz
Mode ..... FM and SSB
Amplifier Gain 8.5dB
GaAS FET Receive Preamplifier Gain 1 3dB
RF Input ..... 0.5 to 5 Watts
RF Output ..... 2 to 35 Watts
Current Draw ..... 4.5 Amps
Dimensions ..... 1 3/8"x 4" x 6 3/4"

HL-35V 35W Output GaAs FET RX Preamp $99.95



HL-35NP 2M LINEAR AMPLIFIER

Frequency Coverage ..... 144 to 148MHz
Mode ..... FM and SSB
Amplifier Gain 8.5dB
RF Input ..... 0.5 to 5 Watts
RF Output ..... 2 to 35 Watts
Current Draw ..... 4.5 Amps
Dimensions ..... 1 3/8" x 4" x 6 3/4"

HL-35NP 35W Output $79.95

HL-62V 2M LINEAR AMPLIFIER

Frequency Coverage ..... 144 to 148MHz
Mode ..... FM and SSB
Amplifier Gain 10dB
GaAS FET Receive Preamplifier Gain 16dB
RF Input ..... 0.5 to 10 Watts
RF Output ..... 6 to 60 Watts
Current Draw ..... 9 Amps
Dimensions ..... 1 3/8"x 6" x 6 1/2"

HL-62V 60W Output GaAs FET RX Preamp $179.95

HL-36U 70CM LINEAR AMPLIFIER

Frequency Coverage ..... 420 to 450MHz
Mode ..... FM and SSB
Amplifier Gain 17dB
GaAS FET Receive Preamplifier Gain 16dB
RF Input ..... 0.5 to 12 Watts*
*Automatic attenuator for inputs over 7 Watts
RF Output ..... 30 Watts Max.
Current Draw ..... 5.5 Amps
Dimensions ..... 1 3/8"x 6" x 6 1/2"

HL-36U Great for HTs & Low Power Mobiles $229.95

LOW PASS FILTERS

The all new DF series Low pass Filters are constructed of nickel-plated steel cases, solid copper coils and teflon isolation pads. Three models for different power levels

DF-4000 $129.95
Frequency Coverage ..... DC to 30MHz
Input/Output ..... 50Ω, Non Polar
Power Handling ... 4000 Watts PEP (2000W DC)
VSWR ..... 1 to 1.2
Attenuation ..... 70 to 100dB above 38 MHz
Design ..... 13th Degree Cauer-Parameter
Connectors ..... Teflon Insulated SO-239
Dimensions ..... 8"x 5" x 2 3/4"

DF-7000 $149.95
Power Handling .... 7000 Watts PEP (3500W DC)
All other specifications same as the DF-4000

DF-10000 $179.95
Power Handling .. 10000 Watts PEP (5000W DC)
Input/Output ..... 50Ω, Non Polar
Power Handling ... 4000 Watts PEP (2000W DC)
All other specifications same as the DF-4000

RF Limited
Issaquah, WA • Tel. (206) 558-9592

A-99

10 meter Base Antenna by SOLARCON

TWIN RING ADJUST-A-MATCH TUNING

The **A-99** is a half wave over a quarter wave variable mutual inductance tuned antenna for 10–17M.

It's **economical** and **easy to use!** — it features the **SOLARCON** Twin Ring "Adjust-A-Match" tuning which makes it possible to tune the input to the antenna and obtain the optimum SWR over a wide range of frequencies. Optional GPK-1 Ground Plane Radial Kit makes it perform even better!

Simple! — raising the rings raises the frequency and lowering the rings lowers the resonant frequency.

A real beauty! — rugged three-piece white fiberglas construction with triple plated brass fittings. It's easy it assemble and install.

A-99 Specifications

Height	17 ft. 8 in.	Radiation Angle	<20°
Sections	3	Grounding	DC Ground
Bands	10–17 meters	Mounting	1-1/2" mast
Gain	3 dBi	Coaxial Cable	52Ω
Power Limit	2000W	Connector	SO-239

A-99 Antenna $59.95

GPK-1 Ground Plane Radial Kit $39.95

MFJ

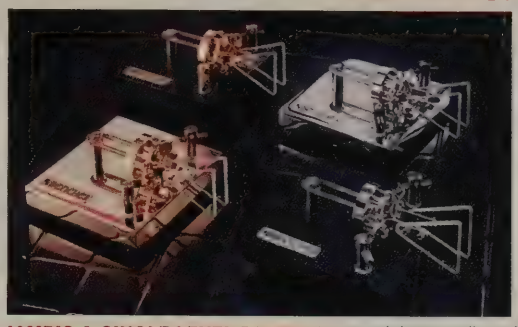
▶**MFJ-564** **Deluxe Iambic Paddle**, chrome base ... **$49.95**

▶**MFJ-557** **Deluxe Code Practice Oscillator** An oscillator and key mounted on a heavy non-skid base. Speaker, adjustable tone and volume controls, and earphone jack. Uses 9V battery or AC adapter. 8½" x 2¼" x 3¾" **$24.95**

MFJ-550 Telegraph key **$7.95**

▶**MFJ-418** **Pocket-size Morse Code Tutor with LCD Display** Take it with you and learn from "Np Code" speed all the way to Extra Class with customized practice. Features include Random QSO Mode, Word recognition Mode. Requires 9V battery. 3"x1⅛"x5½" – fits in your Hand! **$74.95**

BENCHER, INC.



IAMBIC & SINGLE LEVEL PADDLES (left) Highest quality, offering precise control, reliability and years of trouble-free operations. Wide-range adjustment of tension and contact point spacing. Self adjusting needle bearings, gold-plated solid silver contact points, and polished acrylic plastic paddles. The Main frame, contact post, spring posts and bearing ring are all precision machined from solid brass, then chrome or gold plated for durability and rich appearance. Heavy steel base with non-skid feet.

BY-1 Black base **$74.95** • **BY-2** Chrome base **$94.95** • **BY-3** Gold base **$199.95** CLOSEOUT • **BY-4** Black base, Gold components **$139.95**

"RJ" HAND MORSE KEYS (right) A superb and responsive instrument which will bring new pleasure to traditional Morse keying. Features include oil impregnated sintered bearings at pivot points to impart friction-free pivoting and wobble free vertical tracking. Stainless steel locking screw allow individual adjustment for arm height, tension and contact spacing. Black "Navy" style knob with removable skirt gives a solid feel with outstanding tactile feedback, Heavy metal base available in black texture or chrome finish with anti-skid rubber feet. **RJ-1** Black Base **$74.95** • **RJ-2** Chrome Base **$84.95**

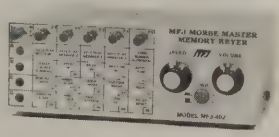
MFJ

MFJ-422C **Keyer-Paddle Combination** This Keyer unit installs on top of a Bencher Iambic Paddle. If you already own a Bencher paddle, buy just the keyer unit, if not, buy the combo. Speed is 9–50 wpm, it has adjustable weight and tone, dot-dash memories, sidetone. Semi-automatic/tune or automatic modes. Keys grid block, cathode or solid state.Uses a 9V battery or AC adapter. 4⅛" x 2⅝" x 5½"d.

▶**MFJ-422C** **Combo $124.95** • ▶ **MFJ-422CX** **Keyer only $74.95**

▶**MFJ-407C** **Deluxe Electronic Keyer** Features dot-dash memories, self completing dots and dashes; jam-proof spacing. RF proof, instant start. Single squeeze, or straight key. Front panel controls: speed, weight, tone and volume, ON/OFF, tune, auto/semi-automatic. Selectable A or B-type iambic keying. Built-in speaker, uses 9V battery, or optional MFJ-1312B 110VAC adapter. 7" x 2" x 6"d **$64.95**

▶**MFJ-401C** **Econo Electronic Keyer II** Similar to MFJ-407C but with external speed and volume controls, internal weight and tune controls. Uses 9V battery or AC adapter **$49.95**



▶ **MFJ-492** **Menu Driven Memory Keyer** No keypad, no complex sequences to remember. Just follow the menu! Save and play messages...decrement serial #s...set speed, weight, sidetone...enter iambic, semi-auto, handkey, message queue, paddle command modes... turn on/off sidetone, transmitter tune, keying output on/off...select iambic A or B, reverse paddle, Morse trainer, and store starting serial number. Holds 192 characters in 4 soft sectored message memories, expandable to over 8K characters in 8 memories with lithium battery back-up. Front panel controls for speed (5–100 WPM) and volume,. built-in sidetone speaker. Direct and grid block keying output. Uses 9V battery or opt.110V AC adapter. 6½" x 2½" x 6¼" **$89.95**

▶**MFJ-493** All features of the MFJ-492, but with 32K characters of memory. IBM keyboard input, serial port for computer interface and QSO simulator **$129.95**

▶**MFJ-490** **Memory Keyer/Bencher Combo** Nearly all features of the MFJ-492 in a compact configuration that mounts right on the Bencher iambic paddle. 5" x 3" x 5½", 9V DC **$149.95**

▶**MFJ-490X** **Memory Keyer/Bencher Combo** The MFJ-490 less Paddle and memory expansion kit not available **$99.95**

▶**MFJ-451** **Morse Keyboard** A stand-alone CW keyboard with 200 character type-ahead buffer, and two 100 character messages. Requires 12VDC or MFJ-1312B 110VAC adapter ... **$89.95**

▶**MFJ-452** **Morse Keyboard** with 16 character LCD display. Comes with keyboard **$119.95**

More MFJ – See Index

VIBROPLEX®

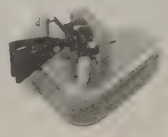
Original "Bug" Press the thumb piece to the right, and the vibrating bar produces one, or a string of dots – automatically. Dashes are made to the left – manually. A sliding weight adjusts the speed for 20 wpm or less. Silver contacts, non skid feet. **Standard model** has painted base and chrome top parts, **Deluxe model** has polished chrome base and top parts and fine jewel movements for smooth operation.

▶**Standard (#110) $139.95** • ▶**Deluxe (#105) $174.95**
▶**Gold (#090) $289.95**

▶**Original Presentation** The finest quality semi-automatic key available. It offers real jewel movements & widest speed range from less than 20 to 55 wpm, plus bright chrome parts mounted on a 24-caret gold base plate ..... **(#100) $249.95**

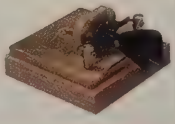
▶**Vibrokeyers** **Single lever paddle** (top) Initiates the automatic dots and dashes of an electronic keyer. **Dual paddle Iambic** (right) allows automatic dot/dash insertion. **Standard:** black base/chrome parts. **Deluxe:** chrome base/top parts, jeweled movements. **Presentation:** 24k gold plated brass plate on a polished chrome base, chrome parts, jeweled movements.

Single: ▶**Standard (#120) $129.95** • ▶**Deluxe (#115) $169.95**
▶**Gold (#113) $269.95**
Iambic: ▶ **Standard (#135) $129.95** • ▶ **Deluxe (#130) $169.95**
▶**Gold (#123) $269.95** • ▶**Presentation (#125) $239.95**



▶**Brass Racer Iambic** A solid brass Iambic paddle mounted on a polished hardwood base ..... **(#145) $89.95**

▶**EK-1** Solid brass Iambic paddle with an 8044 electronic keyer built into the hardwood base. Iambic, dot/dash insertion, adjustable speed ... **(#140) $144.95**

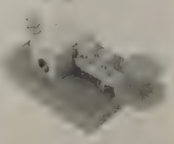


▶ **Square Brass Racer** Solid lacquered brass Iambic paddle mounted on a polished hardwood base. Magnetic action, no springs! ..... **(#150) $129.95**

Palomar Engineers

▶**PK-200B** **All Brass Dual Paddle Iambic Key** Made by Jones of England. Smooth, solid iambic action. Adjustable spring tension, paddle height & spacing. Gold-plated contacts, serial # **$99.95**

PK-203 **All Brass Single Paddle Key** Like PK-200B but single paddle for non-iambic keyer operation **$194.95**



PK-205 **Straight Key** Solid brass block encloses dual rotary ball race bearings. Adjustable spring tension & contact spacing. Steel base, serial # **$154.95**

IsoPole Omni-Directional VHF & UHF Base Station Antennas

IsoPoles are Top Performers for 144, 220 and 440 MHz, yielding the maximum gain attainable for their respective lengths, and a zero degree radiation angle which puts most of the signal right on the horizon. Exceptional decoupling results in simple tuning and a significant reduction in TVI potential and noise pick-up. Broadband- typical SWR is 1.4 to 1 or better across the entire band.

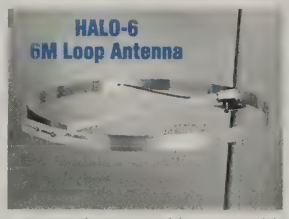
	IsoPole 144	IsoPole 220	IsoPole 440
Frequency:	135-160MHz	210-220MHz	415-465MHz
2:1 Bandwidth:	10 MHz	15 MHz	22 MHz
Power Rating:	1 KW	1 KW	1 KW
Length:	125.5"	79.25"	46"
Wind Area:	< 1ft²	< 0.75 ft²	< 0.2 ft²
Connector:	SO-239	SO-239	Type N
PRICE	$63.00	$49.95 CLOSEOUT	$89.95

HOT RODS

Hot Rods are High performance 1/2-wave telescoping antennas for handhelds, providing gain and extend range. No ground plane required for efficiency so they actually outperform longer 5/8's. They're 20% shorter and lighter, which is more convenient, and places less stress on your HT. Collapsed, Hot Rods will perform like a helical quarter-wave. Handles over 25W, useful for portable base or mobile. BNC connector. ▶**HR-1** (2M) • ▶**HR-2** (220MHz).....each **$29.00**

IsoLoop 10-30MHz HF Loop Antenna

The **IsoLoop 10-30** is a compact omnidirectional HF antenna covering 10–30MHz and rated at 150 watts. The diameter is only 35" and it can be mounted vertically or horizontally. No rotor, tuner, ground plane, or radials are required. It's highly efficient because it's tunable to the operating frequency by a step motor driven variable tuning capacitor, controlled from operating position. The special design also reduces TVI problems and attenuates out of band signals. The IsoLoop 10-30 is ideal for those with antenna restrictions. It's perfect for condos, apartments, attics, RV's. It comes fully assembled with power supply, manual controller unit, and 50 ft. of shielded control cable; mast not included. 35" dia., 30 lbs **$449.95**

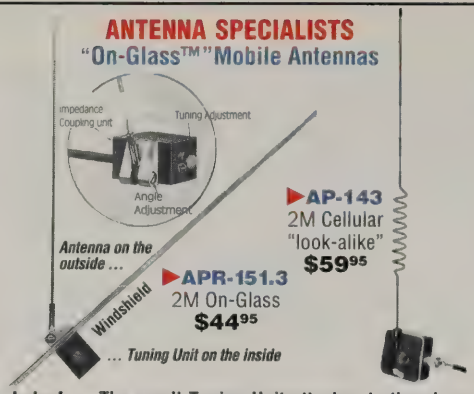


HALO-6 6M Loop Antenna

The **HALO-6** is designed for the new Technician Code-FREE licensee who wants the experience of working real ionospheric skip DX on 6-meters. It will also allow the long time radio amateur who has never experienced this mysterious band, the opportunity to use his new multi-band transceiver like the IC-706 and DX-70 on 6 meters at the lowest possible cost. *Features:* Highly efficient loop design, tunes the entire band • Low angle of radiation – excellent for DX • Omni-directional – excellent for spotting DX • Handles 750 watts, stack two for maximum power and 3dB omnigain • DC shorted feed for maximum lightning protection • Portable, low profile (27") diameter loop • Horizontal or vertical polarization mount • Easy to assemble and tune **$69.00**

ANTENNA SPECIALISTS

"On-Glass™" Mobile Antennas



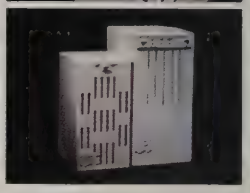
▶**AP-143** 2M Cellular "look-alike" **$59.95**

▶**APR-151.3** 2M On-Glass **$44.95**

No holes! ... The small Tuning Unit attaches to the glass inside of the vehicle, and couples capacitively *thru-the-glass* to the Radiating Element mounted on the outside. Installs with DUOBOND™ adhesive that can be easily removed without damage. Includes adhesive, 15 feet of coaxial cable and PL-259 connector.

Power ..... 100 watts
Frequency Range.... 144-174 MHz (APR-151.3) 138-150 MHz (AP-143)
Bandwidth.....6 MHz, tunable
VSWR..... Less than 1.5:1
Impedance..... 50Ω nominal
Radiator..... Electrical 1/2-wave
Coupling Unit...s hunt fed, DC gnd
Whip Material..... Stainless steel, black DURA-COAT ™ finish
Whip Length .... 33 in. (APR-151.3) 23 in. (AP-143)
Cable RG-58/U, 15 ft. wi/ PL-259

TRIPP LITE — EQUIPMENT PROTECTION



Isobar – the World's Most Advanced Surge Suppressors. Provide Instantaneous (0ns.) response to power surges. Isolated filter banks eliminate connected equipment interference "Cascade circuitry" provides increased surge protection and diagnostic LEDs.

BC Series Battery Backup Systems Offering complete protection against surges, line noise, brownouts and blackouts. Tripp Lite uninterruptible power supplies keep your computer and Ham Radio equipment running in an emergency. Long lasting batteries give you up to 17 minutes backup time for 486/Pentium PCs. **BC internet** models offer RJ-11 jacks for complete Fax/Modem protection.

Various Models – See Tripp Lite in the Price List

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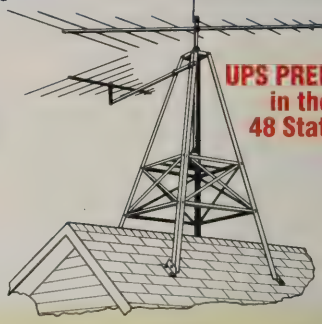
• New & Used Equipment
• Closeouts • Specials • More!
e-mail to: **help@aesham.com**

GLEN MARTIN ENGINEERING

ROOF-TOP TOWERS



UPS PREPAID in the 48 States

High Quality • Anodized Aluminum Construction • Lightweight yet Extra Heavy Duty • Will not Rust / Stainless Steel Bolts • Ideal Roof-Top support for Ham Antennas • Weather monitors Scanner & AMSAT Antennas

MODEL	Height	*D, inches	Base width	Max Ant. in sq. ft. @ 87 mph	100 mph	112 mph	Max. Ant. weight	Shipping weight	Price w/UPS
RT-424	4.5	34.75	24"	6	4.5	3.6	100 lbs.	22 lbs.	$149.95
RT-832	8.0	43.75	32"	8	6	4.8	120 lbs.	36 lbs.	$219.95
RT-936	9.0	43.75	36"	18	13.5	10.5	130 lbs.	78 lbs.	$369.95
RT-1832	17.5	37.62	32"	12	9	7.2	110 lbs.	88 lbs.	$499.95

TOWERS & HAZER

You NEED the HAZER The Hazer is a unique tram that rides up & down the outside of your **Martin** tower. Raise and lower your antennas by simply turning a winch crank! Hazer 2, 3, 4, 5, 6 wrap around the tower and works best on 50 ft. and lower towers with kevlar guywires. Hazer 7 incorporates it's own separate track. M-1860A & M-1870A includes kevlar guy wire sets for two levels. Kevlar guys are stronger than steel and electrically transparent.

***COMPLETE* TOWER PACKAGE** INCLUDES: **10-FOOT Tower Sections; Concrete footing; Hinged Base, for walk up erection; HAZER, winch, cable, etc; KEVLAR Guy Wire Kit, turnbuckles, earth screw anchors, hardware; Premium Thrust Bearing, 10-Foot Mast and 8 ft. Earth Ground rod. Shipped motor freight prepaid.**

ALL YOU ADD IS CONCRETE, YOUR ROTATOR & ANTENNAS!

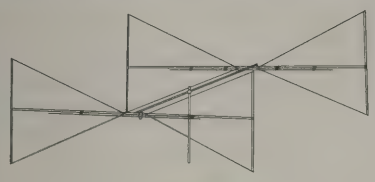
ORDER #	TOWER PACKAGE		FREIGHT PREPAID
M1330A	30 ft., 12 sq. ft., 87 MPH w/Hazer 5		$1539.56
M1340A	40 ft., 12 sq. ft., 87 MPH w/Hazer 5		$1744.56
M1840A	40 ft., 16 sq. ft., 87 MPH w/Hazer 6	*See Price List*	$2047.64
M1850A	50 ft., 16 sq. ft., 87 MPH w/Hazer 6	*for Accessories*	$2292.64
M1860A	60 ft., 15 sq. ft., 87 MPH w/Hazer 7		$3195.00
M1870A	70 ft., 15 sq. ft., 87 MPH w/Hazer 7		$3485.00

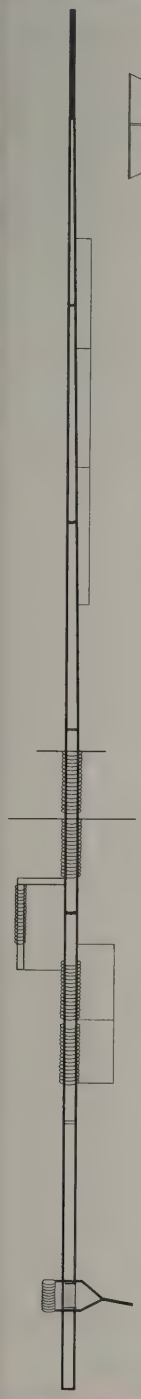
HAZERS FOR ROHN 20/25G TOWERS

CAT #	MAX LOAD	WIND ABILITY		MADE OF	UPS PPD
H-2	175 Lbs.	12 Sq. Ft.	*See Price List*	Aluminum	$339.95
H-3	150 Lbs.	8 Sq. Ft.	*for*	Aluminum	$245.95
H-4	200 Lbs.	16 Sq. Ft.	*other Models*	Galv. Steel	$326.95

BUTTERNUT

Makers of the famous High Performance Butternut Verticals and the HF5B "Butterfly" Compact Beam.





HF-5B
5 Band Butterfly Beam

- **5 Band Performance**
- **3 dBd gain – 20M**
- **5 dBd gain – 15/12/10M**
- **Weighs only 20 lbs**

Ideal where space is limited, the HF5B packs maximum performance onto a 6 foot boom with 12.5 foot elements.

With a windload of only 3 square feet, the HF5B is perfect for a lightweight mast or roof tripod. Turns easily with a TV rotator..... **$299.95**

HF-9VX
9 Band Vertical

- **9 bands, 80 thru 6M**
- **No-radial operation with CPK counterpoise**
- **26 feet tall**

More efficient than the usual trapped designs or "halfwaves", Butternut's exclusive tuning system allows more of the antenna to be active on each band, providing superior overall performance on all 9 bands..... **$249.95**

HF-2V
Dual Band Vertical

- **Optimized for 80 & 40M**
- **32 ft. tall - no guy wires!**
- **Adapters available for 160 or 30M**

The action will be on 80 and 40 meters during the sunspot minimum - be prepared with the HF2V. The entire antenna is active on both bands for maximum performance..... **$189.95**

CENTAUR ELECTRONICS The "Cricket" Pulser

▶**CP-1** No more tuning-up key-down, creating damaging heat and loading down the power supply! This user controlled, variable duty cycle station tuning instrument plugs into the station's exciter CW key jack. Proceed to tune-up in the usual manner, but then press the PULSE button on the CP-1 and adjust the duty-cycle control for a desired pulse width, normally about 10%. For best results the use of a peak-reading wattmeter is recommended. Uses 9-volt battery. 4¼"h x 2¼"w x 1½"d..... **$67.00**

High Performance Baluns

• State-of-the Art • 0.5 – 50MHz performance with advanced toroidal transformer • 3kW SSB rated • Extended performance in hostile environments • Stainless steel hardware • Heavy-duty body materials • Military grade internal components • 3" diameter x 7"

▶**B11W10-50** for 1:1 Dipole..... **$49.95**
▶**B11Y10-50** for 1:1 YAGI..... **$49.95**
▶**B41Y10-50** for 4:1 YAGI..... **$64.95**
▶**B41LW10-50** 4:1, Ladder Line to coax..... **$64.95**

AMERITRON

Remote Controlled Coaxial Switches

▶**RCS-4** Convenient selection of up to 4 different HF antennas while using just one coaxial feed line, and no additional control cable is required. The weatherproof switch box locates out on the tower, mast or other remote location. The control box locates at your operating position and switches antennas with a control voltage routed directly through the coaxial cable. Rated for 1.8–30MHz at the legal power limit..... **$129.95**

▶**RCS-8V** Independently or simultaneously select up to 5 different antennas using just a single coaxial feedline and a 8-wire control cable. Internal wiring allows user to ground or float unused terminals as required. Rated to handle 5KW below 30MHz, and 1KW up to 150MHz..... **$139.95**

GAMBER-JOHNSON

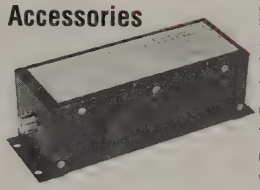
▶**SS-100** Convenient, avoid theft! Radio slides in and out of mount instantly without having to attach or remove cables. Power, Ground, Antenna, and Speaker leads connect and disconnect automatically! RF components are designed for a low SWR up to 500MHz. Adapts to most radios; the bracket adjusts to case size and can be conveniently attached above or below the radio unit..... **$69.95**

***Super Slide* Radio Mount**

▶**SS-101** Extra base for multiple vehicle use..... **$44.42**

OAK BAY TECHNOLOGIES

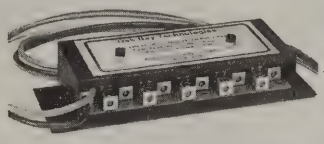
Accessories



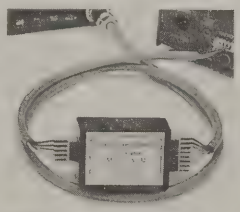
▶**LP-11P Commercial Grade Low Pass Filter** Installs in the transmission line between transmitter and power amplifier or tuner. Eliminates TVI by filtering out transmitter generated harmonics that could fall within TV bands. Eleven pole Chebishev filter design covers 1.8 thru 30MHz with less than 0.5dB insertion loss, an upper cutoff frequency of 41MHz and 80dB of ultimate attenuation. Rated at1 KW RF..... **$69.95**

▶**LP-50 Low Pass Filter** for 1.8 thru 54MHz range **$69.95**

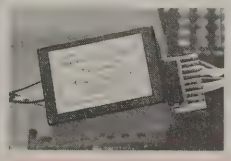
▶**AM-101B Rubber Duck Window Mount** Improve handheld performance when operating mobile by getting the RF out of the car. Great for emergencies, rental cars, etc. The custom stainless steel bracket slips on the top edge of car window, and the rubber duck antenna from your HT attaches to the BNC mount on the outside. Comes with 6 ft. of RG-174U coax with BNC connector. 15W, dual/twin band compatible..... **$24.95**



▶**PS-612M High Current 12V Power Strip** Make just one connection to your power source (battery, power supply, etc.) and distribute power to multiple devices. Provides five outputs with circuit breakers. Rugged screw and clamp connections. Rated for 50 Amps total current. Comes with 5 feet of #8 gauge hook-up wire, terminal lugs and fuses..... **$64.95**



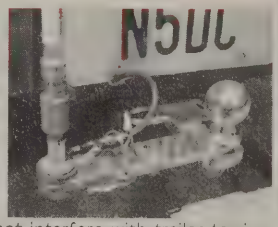
▶**CA-232U Uni-Cable™ Interface** A universal Packet TNC cable that provides interfacing between popular TNCs and all popular VHF/HF transceivers. No soldering required, easily programmed by user to mate with 8-pin microphone. connectors..... **$34.95**



▶**CA-232HH Uni-Cable™ Interface** Provides an easy connection of popular TNCs to popular handhelds that use 2.5mm and 3.5mm microphone and earphone jacks. No soldering is required **$34.95**

DC SALES

"Tenna Hitch"



A heat treated, high strength aluminum bracket with an insulated 3/8" x 24 antenna mounting stud. Install under the ball of a Class-1 or 2 trailer hitch and attach the coaxial cable. Handles the largest mobile antennas, and does not interfere with trailer towing capability. No holes to drill, all hardware supplied..... **$32.95**

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- **Linear Coil for Maximum Gain**
- **Soldered Element Joints**
- **ABS Radome Joints: Weather Proof/Invisible to RF for the Finest Radiation Pattern**

COMET has an extensive line of Mono-Band/Dual-Band/Tri-Band Antennas for Base Station and Repeater use.

For a complete catalog of **COMET** Antenna products call or visit your local dealer. Or, contact **NCG Company** at 800/962-2611. Use **COMET** products, and enjoy amateur radio to it's fullest!

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CH-32
Miracle Baby
146/446MHz
HT Antenna
Gain: 0dBi
Length: 1.75"
Conn: BNC

- **Gold-Plated Connectors**
- **High-Quality Craftsmanship**
- **Unique Fold-Over Feature**

NEW Z750 • Dual-band 146/446MHz w/fold-over • Includes COMET exclusive theft-resistant lock!
Gain & Wave: 146MHz 2.15dBi 1/2 wave • 446MHz 5.5dBi 5/8 wave x 2 • Length: 39" • Conn: Gold-plated PL-259 • Max Pwr: 200W

NEW Z780 • Dual-band 146/446MHz w/fold-over • Includes COMET exclusive theft-resistant lock!
146MHz 6/8 wave 4.5dBi • 446MHz 5/8 wave x 3 7.2dBi • Length: 62" • Conn: Gold-plated PL-259 • Max Pwr: 150W

NEW SBB-15 • Tri-band 52/146/446MHz w/fold-over **NEW BLACK COLOR**
Gain & Wave: 52MHz 0dBi 1/4 wave • 146MHz 4.5 dBi 6/8 wave • 446MHz 7.2dBi 5/8 wave x 3 • Length: 58" • Conn: PL-259 • Max Pwr: 120W

NEW SBB-7/SBB-7NMO • Dual-band 146/446MHz w/fold-over **NEW BLACK COLOR**
Gain & Wave: 146MHz 4.5dBi 6/8 wave • 446MHz 7.2dBi 5/8 wave x 3 • Length: 58" • Conn: SBB-7 PL-259/SBB-7NMO NMO • Max Pwr: 70W

NEW SBB-5/SBB-5NMO • Dual-band 146/446MHz w/fold-over **NEW BLACK COLOR**
Gain & Wave: 146MHz 2.5dBi1/2 wave • 446MHz 5.5dBi 5/8 wave x 3 • Length: 39" • Conn: SBB-5 PL-259/SBB-5NMO NMO • Max Pwr: 120W

CX-224/CX-224NMO • Tri-band 146/220/446MHz w/fold-over
Gain & Wave: 146MHz 2.15dBi 1/2 wave • 220MHz 3.5dBi 5/8 wave • 446MHz 6.0dBi 5/8 wave x 2 • Length: 36" • Conn: CX-224 PL-259, CX-224NMO NMO • Max Pwr: 100W

B-20/B-20NMO • Dual-band 146/446MHz w/fold-over
Gain & Wave: 146MHz 2.15dBi 1/2 wave • 446MHz 5.0dBi 5/8 wave x 2 • Length: 30" • Conn: B-20 PL-259/B-20NMO NMO • Max Pwr: 50W

SH-55 • Super Flexible 146/446MHz HT Antenna
Gain: 146MHz 1.5dBi • 446MHz 3.2dBi • Length: 15.5" • Conn: BNC • Max Pwr: 10W

B-10/B-10NMO • Dual-band 146/446MHz cellular look-a-like • Gain & Wave: 146MHz 0dBi 1/4 wave • 446MHz 2.15dBi 1/2 wave • Length: 12" • Conn: B-10 PL-259/B-10NMO NMO • Max Pwr: 50W

COMET Specializes in a wide assortment of Mobile Mounting Systems that require NO HOLES. A variety of trunk lid, hatchback, rain gutter, roof rack and window mounts are available along with low loss coax cable assemblies, for the ultimate mobile station!

For a complete catalog of **COMET** Antenna products call or visit your local dealer. Or, contact **NCG Company** at 800/962-2611. Use **COMET** products, and enjoy amateur radio to it's fullest!

COMET

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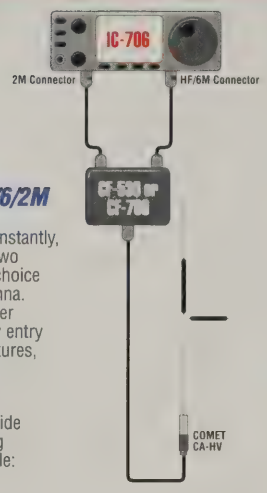
COMET Antennas Specifically Designed For Use With The IC-706 From ICOM And The DX-70 From Alinco



CA-HV

40/*20/15/10/6/2M

Operate 2M/6M constantly, and either one or two HF bands of your choice from a single antenna. Convenient fold-over feature allows easy entry into parking structures, drive-thrus, etc.

Each HF coil tunes independently. A wide variety of mounting options are available:

- Hole Mount
- Trunk Lip Mount
- Hatchback Mount
- Rain Gutter Mount
- Pipe Clamp Mount

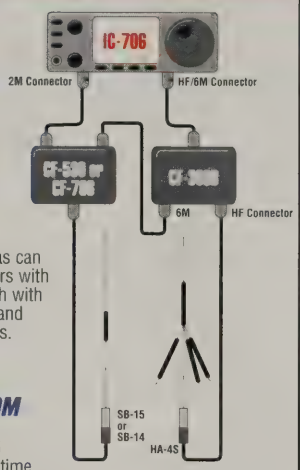
**** L-14: Optional 14MHz Coil***

SB-15

6M/2M/440MHz
61" Tall

SB-14

6M/2M/440MHz
42" Tall



These triband antennas can be used as dualbanders with the ICOM IC-706. Both with fold-over capabilities and easy mounting options.

HA-4S

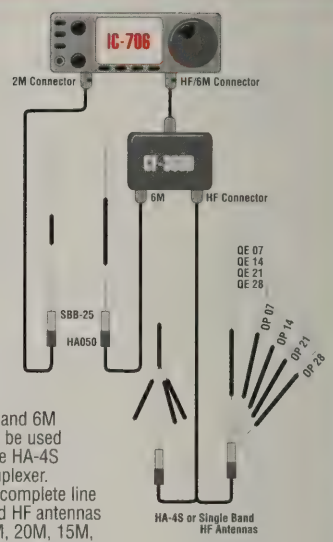
40/*20/15/12/10M

Operate any 4 of the 5 available HF coils at a time. Each coil tunes independently, convenient fold-over feature allows easy entry in parking structures, drive-thrus, etc.

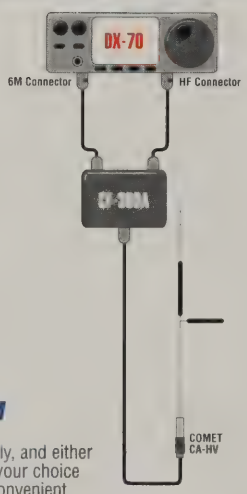
Tune from band to band without the need to change coils, plugs, whips, etc.

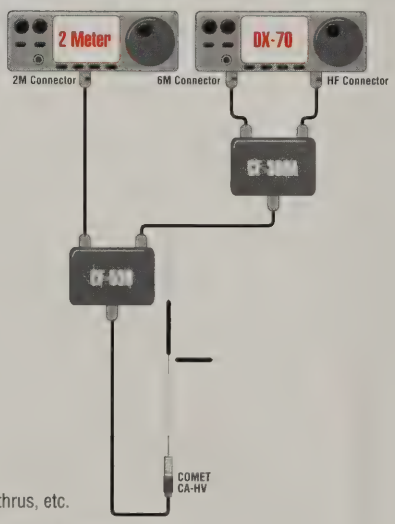
A wide variety of mounting options are available.

**** L-14HS: Optional 14MHz Coil***



Separate 2M and 6M antennas can be used along with the HA-4S avoiding a duplexer. Comet has a complete line of single band HF antennas for 80M, 40M, 20M, 15M, and 10M. All approximately 40" to 45" in height. QE antennas use optional whips.





CA-HV

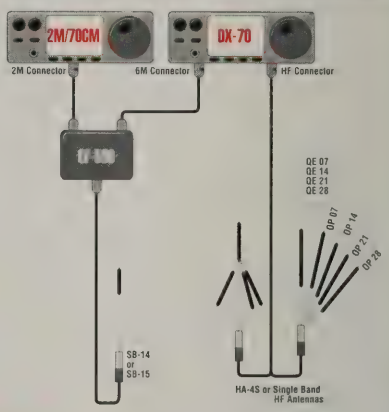
40/*20/15/10/6/2M

Operate 2M/6M constantly, and either one or two HF bands of your choice from a single antenna. Convenient fold-over feature allows easy entry into parking structures, drive-thrus, etc.

Each HF coil tunes independently. A wide variety of mounting options are available:

- Hole Mount
- Hatchback Mount
- Pipe Clamp Mount
- Trunk Lip Mount
- Rain Gutter Mount

**** L-14: Optional 14MHz Coil***



SB-15

6M/2M/440MHz
61" Tall

SB-14

6M/2M/440MHz
42" Tall

Separate 2M and 6M antennas can be used along with the HA-4S avoiding a duplexer. Comet has a complete line of single band HF antennas for 80M, 40M, 20M, 15M, and 10M. All approximately 40" to 45" in height. QE antennas use optional whips.

COMET

Customer Service: (800) 962-2611

cushcraft
CORPORATION

Introducing the R7000

The all new R7000 is a 10 through 40 meter, no ground radial antenna that is expandable to include the excitement of 80 meters. It includes the best features of its predecessor the R7 plus many more. R7000 means excellent performance, easy installation and use, slim silhouette and high reliability.

R80 Add-On Kit

80 meters can be easily added to the R7000 with the R80 kit. The kit includes a 40 meter trap, tubing, 80 meter loading coil, UV stable 400 lb. test guy rope and three 20 foot counterpoise wires that attach to your guy points. The R80 counterpoise wires were designed with state-of-the-art anti-resonators to ensure top performance on all bands. The R7000 with R80 kit is pictured to the far right.

- **EXPANDABLE TO 80M**
  Transform your R7000 into an R7000+ with R80 kit (trap, tubing, guy & counterpoise wire)
- **RELIABLE**
  New trap design is stable in all conditions
- **EASY INSTALLATION**
  For typical use, tuning is not needed
- **AUTOMATIC BAND CHANGING**
  To any band from 10 through 40m (80m with R80 kit)
- **SLIM SILHOUETTE**
  Gain favor of family and neighbors with the slim, smooth profile of our new trap design

MODEL	R7000	R7000+ (w/R80 kit)
Frequency, meters	10,12,15,17, 20,30,40	10,12,15,17 20,30,40,80
Gain, dBi	3	3
Wavelength each bd	Half-wave	Half-wave
VSWR	1.2:1 typical	1.2:1 typical
2:1 bandwidth, KHz	10m (1700) 12m (100) 15m (450) 17m (100) 20m (250) 30m (100) 40m (150)	10m (1700) 12m (100) 15m (450) 17m (100) 20m (250) 30m (100) 40m (100) 80m (70)
Power Rating, Watts	1500	1500
Radiation angle, deg.	16	16
Horizontal rad, deg	360	360
Height, ft(m)	24 (7.3)	34.5 (10.5)
Mast size range, in (cm)	1-3/4 to 2-1/8 (4.4-5.4)	1-3/4 to 2-1/8 (4.4-5.4)
Wind load, ft^2 (m^2)	2 (0.2)	2.5 (.23) antenna 1.5 (.139) guys
Weight, lb, (kg)	18 (8.2)	24 (10.8)

R7000+ (with 80m Kit)

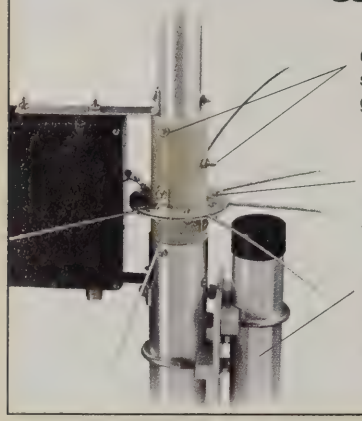
Here's what some of the very first R7000 users have to say.

"The antenna is well built. The instructions are very clear with very helpful diagrams . . . Seven bands right out of the box with no tuning is impressive. . . I really like the construction of this antenna, no loose lockwashers to chase around. All stainless steel hardware is top notch. Keep up the good work." WVØH

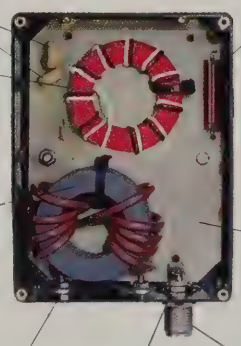
"The R7000 experienced several hours of 50 mph sustained wind with gusts 70 plus mph. I used the R7000 during this time and noticed no difference in performance . . . I was surprised by being able to easily work western European and western African stations on 17m (from North Dakota) " WBØOAJ

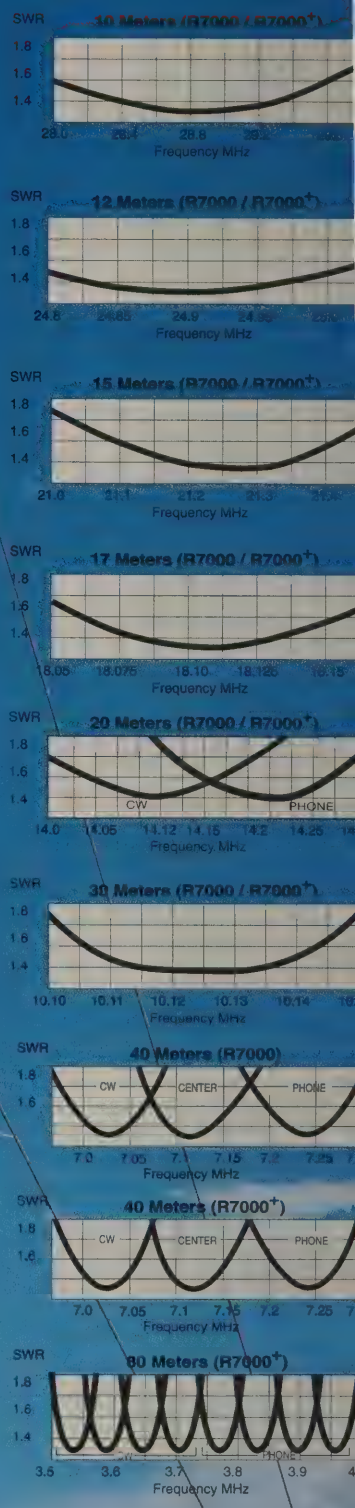
R7000 Trap

R7000's Rugged Design



R7000 Matching Network





10, 12, 15, 17, 20, 30, 40, 80 Meters

cushcraft CORPORATION

Cushcraft Corporation, Manchester, NH

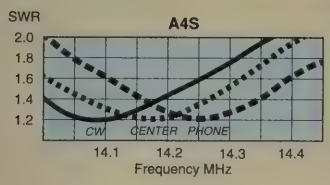
World Ranger Multiband HF Yagis

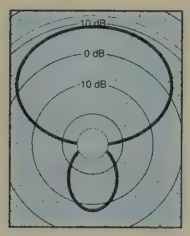
10, 15, 20, 40 Meters

Cushcraft Tribanders Make More DX Fun!

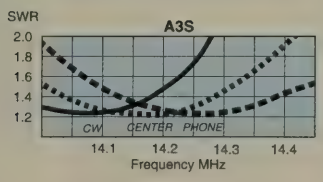
Our three and four element tribanders provide the versatility and performance that you need for reliable communication around the world. And they last! Cushcraft's World Rangers are made with 6063-T832 aluminum tubing, weatherproof traps, and fiberglass insulators to stand up to the weather. Our World Rangers have 50 Ohm twin terminal connectors and need no balun. They are designed with fewer parts for easier assembly, lower weight and less windload. You will spend your time in the shack, not on the tower!

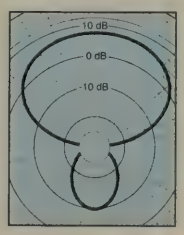
Ham radio is a lot more fun when you have a dependable antenna like our World Ranger. Make your choice from our A4S , A3S and A3WS models. Add a 30 or 40 meter kit to make your antenna even more versatile!





A4S RADIATION PATTERN





A3S RADIATION PATTERN

A4S Four Element Beam

With stainless steel hardware.

The A4S is the true, high performance tribander. Precisely tuned high-power traps, carefully selected element lengths, and proper spacing combine to make the A4S the preferred antenna for your contest work! This is the premium antenna with all the features that you want. High gain, low SWR, and wide bandwidth keep the contacts coming in. All U-bolts, clamps and hardware are stainless steel. The A4S has pinned boom sections and formed aluminum brackets to keep elements straight under all conditions. And our solid construction keeps the A4S on the tower!

A3S Three Element Beam

With stainless steel hardware.

The A3 World Ranger, our top selling tribander, has become the A3S with all stainless steel hardware. It's a real power-house in a small space and lets you work the pile-ups with confidence. All you need is a lightweight tower and rotator to enjoy the benefits of the A3S. It's a proven performer in DX-peditions and contests and handles full power from your linear. Construction features include pinned boom sections, heavy duty element clamps with backing plates plus all stainless steel hardware.

When space is at a premium, but you want the benefits of a full-size tribander, the A3S is right for you!

MODEL	A4S	A3S
Frequency, MHz	28, 21, 14	28, 21, 14
No. Elements	4	3
Forward Gain, dBd	8.9	8
Front to Back Ratio, dB	25	25
SWR 1.2:1 Typical		
2:1 Bandwidth KHz	>500	>500
Power Rating, Watts PEP	2000	2000
3 dB Beam Width, Deg. E Plane	58	60
Boom Length, ft (m)	18 (5.48)	14 (4.27)
Boom Diameter, In (cm)	2 (5.10)	1.5 (3.81
Longest Element, ft (m)	32 (9.75)	27.75 (8.45)
Element Center Dia, in (cm)	1.25 (3.18)	1.25 (3.18)
Turning Radius, ft (m)	18.4 (5.49)	15.5 (4.72)
Mast Size Range, in (cm)	1.25-2.00 (3.18-5.08)	1.25-2 (3.18-5.08)
Wind Load, ft^2 (m^2)	5.50 (0.51)	4.36 (0.47)
Weight, lb (kg)	37 (16.8)	27 (12.9)

30 and 40 Meter Add-On Kits

40 meters will come alive by adding one of these kits to the dipole of your A3S or A4S. The kits include high power traps with heavy wall fiberglass insulator and all hardware. A simple adjustment allows 30 meter operation. For our newest beam, the A3WS, we have a 30 meter add on kit the A103.

A743 7 MHz/10 MHz kit for A3S
A744 7 MHz/10 MHz kit for A4S
A103 10 MHz kit for A3WS

MODEL	A743/A744		A103
BAND	**7 MHz (40 m)**	**10 MHz (30 m)**	**10 MHz (30 m)**
Driven Element with Adapter kit, ft (m)	33.19 min. 35.33 max. (10.12-10.77)	27.12 min. 28.4 max. (8.27-8.66)	32.1 (9.8)
Windloading ft2 (m2)	.58 (.05)	.27 (.03)	.45 (.04)
Bandwidth, KHz	125	150	250
Power Rating, Watts	2000 PEP	2000 PEP	2000 PEP
Side Rejection, dB	20	20	20
Weight, lb (kg)	3.44 (1.56)	2.29 (1.04)	3.25 (1.47)

10 through 20 Meters

cushcraft CORPORATION

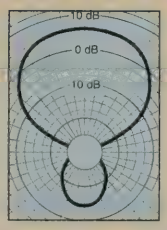
Skylog

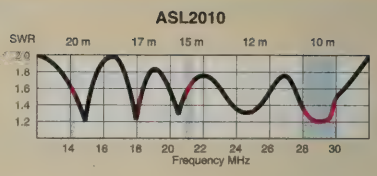
- **Continuous five band coverage from 13.5 to 32 MHz**
- **Constant gain over entire frequency range**
- **6.4 dBd gain, 65 degree beamwidth**
- **High efficiency design, antenna stays cool and VSWR steady**
- **18 foot boom and 19.5 foot turning radius**

This all new log periodic antenna is the most cost effective, high gain, five band antenna solution on the market today. Skylog offers continuous operation from 13.5 to 32 MHz. Antenna gain and beamwidth are constant for uniform coverage from 10 through 20 meters. The ASL2010 is rated for continuous duty at full legal power. Skylog is designed for maximum gain on a manageable 18 foot boom with only 10.1 square feet of wind surface area. All stainless steel hardware and rugged element design are only some of the many features that provide years of superior antenna performance. Skylog ASL2010 is the smart choice for multiband HF operation.

MODEL	A3WS	ASL2010
Frequency, MHz	24, 18	13.5-32
No. Elements	3	8
Forward Gain, dBd	8.0	6.4
Front to Back Ratio, dB	25	15-20
SWR 1.2:1 Typical		
2:1 Bandwidth	300 KHz	18.5 MHz
Power Rating, Watts	2000 PEP	2000
3 dB Beam Width, Deg. E Plane	60	65
Boom Length, ft (m)	14 (4.27)	18 (5.48)
Boom Diameter, In (cm)	1.50 (3.81)	2.0 (5.08)
Longest Element, ft (m)	25.1 (7.66)	38 (11.58)
Element Center Dia, in (cm)	1.25 (3.18)	1.25 (3.18)
Turning Radius, ft (m)	14.4 (4.4)	19.25 (5.86)
Mast Size Range, in	1.25-2	1.5-2
(cm)	(3.18-5.08)	(3.18-5.08)
Wind Load, ft^2 (m^2)	4.1 (.38)	10.1 (.93)
Weight, lb (kg)	22.5 (10.2)	55 (25.5)

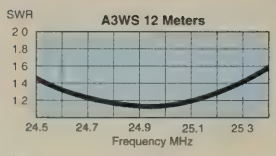
ASL2010

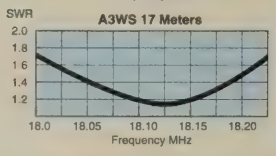




A3WS WARC Bands 3 Element Beam

Enjoy the excitement of our newest HF bands with this all new beam. The A3WS gives full performance on 12 and 17 meters. With the addition of our easy-to-use A103 add on kit, it will also cover 30 meters. A3WS needs only a lightweight tower and rotator or you can mount it above an existing tribander. Construction features include pinned boom sections, heavy duty element clamps with backing plates plus all stainless steel hardware. Take charge of 12, 17 and 30 meters with the new A3WS.





Rotatable Dipoles

Our World Ranger Dipoles give bi-directional patterns and rotatable convenience. You can mount them high and away from the trees for better performance than a wire dipole. These single and multi-band dipoles feature high-performance traps, heavy wall tubing, and rugged hardware for years of enjoyment.

D3W World Ranger Dipole

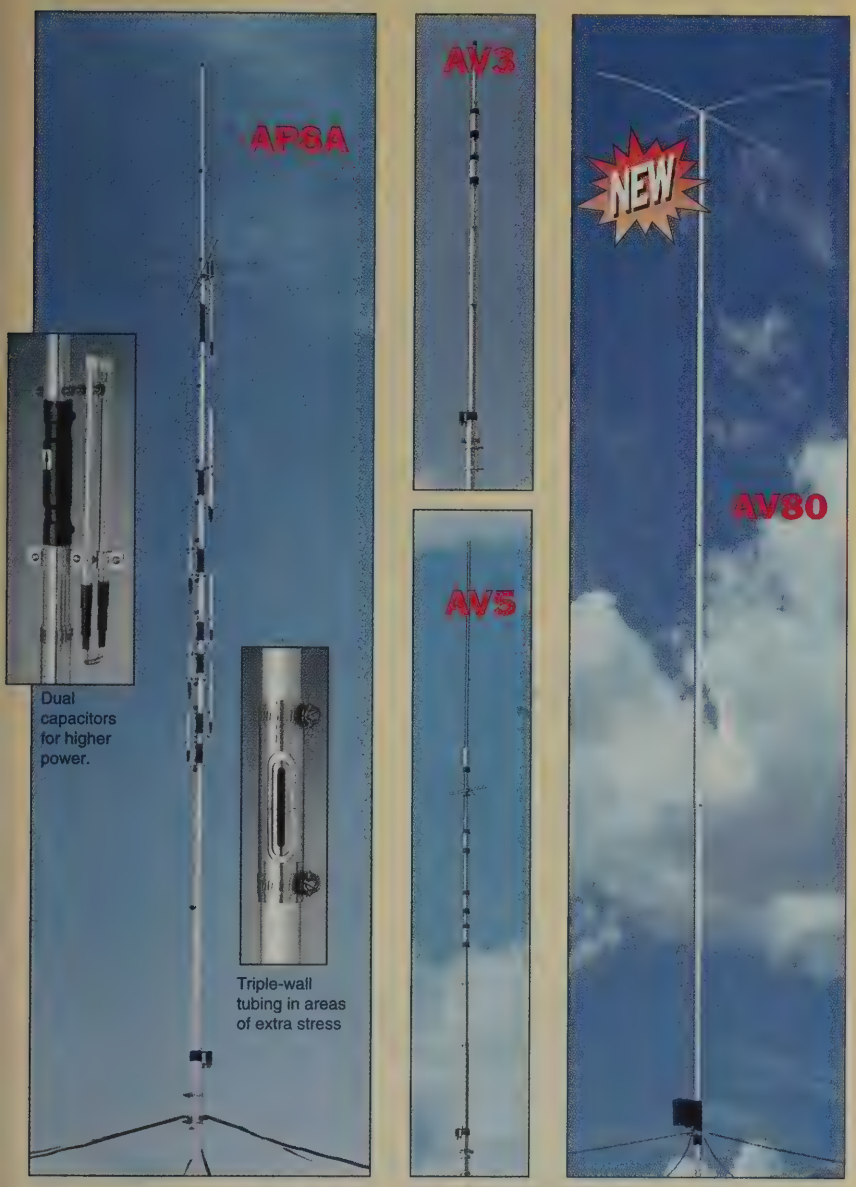
The perfect answer for the WARC bands. This rotatable dipole is easily mounted on the same mast as your existing tri-bander or other antennas. With a bi-directional pattern it will give you amazing performance on the new bands.

MODEL	D40	D4	D3	D3W
Frequency, MHz	7	28,21,14,7	28,21,14	24,18,10
SWR 1.2:1 Typical				
2:1 Bandwidth, KHz	200	>350	>500	>200
		40>125		
Power Rating				
Watts PEP	2000	2000	2000	2000
Length ft	42.25	35.8	25.8	34.0
(m)	(12.88)	(10.92)	(7.86)	(10.37)
Mast Size, in(cm)	1.5-2 (3.8-5)	1.5-2 (3.8-5)	1.5-2 (3.8-5)	1.5-2 (3.8-5)
Wind Load, ft2 (m2)	1.3 (.12)	1.3 (.12)	.9 (.08)	.9 (.08)
Weight, lb (kg)	12 (5)	13 (6)	9 (4)	11 (5)

Typical Dipole Radiation Pattern

10 Through 80 Meters

Limited space or budget? Want a low angle of radiation for more DX contacts? Consider using a Quarterwave vertical. These antennas require a good ground system, usually created with radials. The resulting antenna system gives you the most HF bang for the buck. If you want to cover several bands, the AP8A, AV5 or AV3 is the answer. To improve your stations performance on 75/80 meters, use the AV80. With any of these models, excellent DX will be yours within hours.



80 Meter, AP8A, AV3 AND AV5 REQUIRE RADIALS

MODEL	AP8A	AV80
Frequency, MHz	28, 24, 21, 18, 14, 10, 7, 3.5	3.5
Electrical Wavelength	1/4	1/8 wavelength to top hat
SWR 1.2:1 Typical		
2:1 Bandwidth	Full Band Except 40M>150 KHz & 80 M>80 KHz	With proper ground
Power Rating, Watts PEP	2000	1500
Radiation Angle, degrees	18	18
Horizontal Radiation Pattern, degrees	360	360
Height, ft (m)	26 (7.92)	36 (10.97)
Mast Size Range, in (cm)	1.5-1.75 (3.8-4.4)	1.5-1.75 (3.8-4.4)
Wind Load, ft^2 (m^2)	1.7 (.16)	4.2 (.42)
Weight, lb (kg)	9.5 (4.3)	20 (9.1)
Radials Required	Normally	Normally
Radial Kit Available	Yes, APR18A	APR80A

NEW 80 Meter Vertical

For a special antenna on 75 and 80 meters, consider the NEW Cushcraft AV80. This time tested design features a top loading coil and a four element capacitive top hat. The radiator is 36 feet (10.9 M) long and 2 inches (5 cm) O.D. Its matching network allows immediate QSY'ing from the DX phone band to the DX CW band. Or, it could be set entirely in either the phone band or the CW band. The AV80 will take all the power you want to feed it. The matching network components are overrated to operate up to 1500 Watts. The AV80 is designed to match impedances with up to 5 Ohms of ground loss. It works well with 4 radials elevated 8 to 10 feet (2.4-3 M) off the ground or 16 quarterwave radials if ground mounted. Ground mounting the antenna would require a more extensive radial system. AV80 is an excellent choice for multi-element arrays.

AP8A, Eight Bands In One Tough Antenna

The AP8A is the next generation eight-band quarterwave that has been strengthened with thick wall tubing, up to three layers deep in some sections, and high tensile strength fiberglass. The traps have been beefed up to handle the legal limit and are moisture sealed. You can be up and running on 10 through 80 meters in no time. (The APR-18A Radial Kit will make the job even easier.) The key to the AP8A's eight band coverage is the automatic bandswitching and efficient traps. The traps are parallel LC circuits which allow broadband operation. The AP8A is a very popular antenna with new hams because it's such a great value. Eight bands in one rugged antenna at an affordable price.

APR18A Radial Kit

The Cushcraft APR-18A radial kit is the perfect match for the AP8A, AV3, AV5, or any quarterwave amateur HF vertical where a good low angle signal on the horizon and a low VSWR are important. The kit offers maximum performance on all HF bands and consists of only 9 multiple and single-conductor radials, with a maximum length of only 31 feet. It's great for quick installation at either ground level or rooftop sites.

AV3 Three Band & AV5 Five Band

Our AV3 handles 10, 15, and 20 meters with fine performance and easy assembly. It has the same rugged construction as the AV5. The AV5 works with the popular 10, 15, 20, 40 and 80 meter bands with broad bandwidth and full legal power. For versatility, this is the antenna for you!

MODEL	AV3	AV5
Frequency, MHz	28, 21, 14	28, 21, 14, 7, 3.5
Electrical Wavelength	1/4	1/4
SWR 1.2:1 Typical		
2:1 Bandwidth	Full Band	Full Band except 80 M>70 KHz
Power Rating, Watts PEP	2000	2000
Radiation Angle, degrees	18	18
Frequency Selection	Automatic	Automatic
Horizontal Rad. Pattern, deg.	360	360
Height, ft (m)	14 (4.2)	25 (7.4)
Mast Size Range, in (cm)	1.5-1.75 (3.8-4.4)	1.5-1.75 (3.8-4.4)
Wind Load, ft^2 (m^2)	1.02 (.1)	1.89 (.19)
Weight, lb (kg)	5 (2.3)	8 (3.6)
Radials Required	Normally	Normally
Radial Kit Available	Yes, APR18A	Yes, APR18A

10, 15 Meters

10 Meters

The three element model is a great selling antenna! If you have the space, and need the utmost in performance, then try our four element Skywalker. You can't go wrong with these contest winners, especially if you are a Novice new to ten meters!

MODEL	10-4CD	10-3CD
Frequency, MHz	28.0-29.7	28.0-29.7
No. Elements	4	3
Forward Gain, dBd	10.0	8.0
Front to Back Ratio, dB	30	30
SWR 1.2:1 Typical		
2:1 Bandwidth, KHz	>900	>1400
Power Rating, Watts PEP	2000	2000
3 dB Beamwidth, Deg. E Plane	56	57
Side Lobe Attenuation, dB	40	40
Boom Length, ft (m)	16 (4.88)	10 (3.05)
Boom Diameter, In (cm)	2.0	1.63-1.50
	(5.08)	(4.1-3.8)
Longest Element, ft (m)	17.58 (5.34)	17.66 (5.38)
Element Center Dia, in (cm)	.88-.63	.88-.63
	(2.2-1.6)	(2.2-1.6)
Turning Radius, ft (m)	11.5 (3.5)	10 (3.05)
Mast Size Range, in (cm)	1.5-2.0	1.5-2.0
	(3.8-5.1)	(3.8-5.1)
Wind Load, ft^2 (m^2)	3.1 (.29)	2.3 (.21)
Weight, lb (kg)	18 (8.16)	11 (5.00)

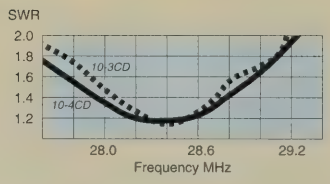
More Performance Than You Ever Imagined

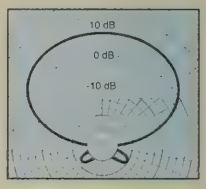
More contacts, less waiting, less interference, and a better signal at the other end are yours with a Skywalker!

Computer-aided design helped us maximize forward gain while reducing sidelobes and SWR. Our 50 Ohm Reddi-match feed uses a UHF SO-239 for easy connection.

Construction features include improved larger diameter pinned booms with fewer sections, heavy-wall heat treated 6063-T832 aluminum tubing, stainless steel fasteners, worm drive element clamps, and carefully formed aluminum brackets.

Assembly is easy and installation can often be done by one person!
Skywalkers are contest winners. One of these fine antennas is perfect for you.





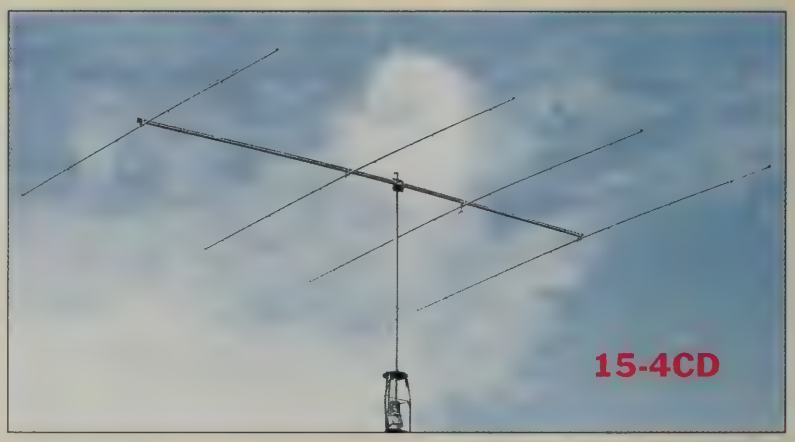
Typical 3 Element Pattern

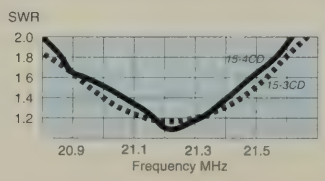
15 Meters

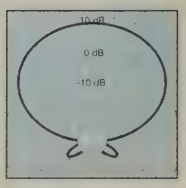
These two Skywalkers will keep you enthusiastic about 15 meters. Our three element model gives fine performance in limited areas. For maximum gain, select the four-element model with its new 2" diameter boom. Or, try stacking two four element Skywalkers for incredible performance! Reddi-match tuning makes it easy.

The 10dB forward gain of our 15-4CD is the result of computer design and will keep you the first in line during pileups!

MODEL	15-4CD	15-3CD
Frequency, MHz	21.0-21.45	21.0-21.45
No. Elements	4	3
Forward Gain, dBd	10.0	8.0
Front to Back Ratio, dB	30	30
SWR 1.2:1 Typical		
2:1 Bandwidth, KHz	500	500
Power Rating, Watts PEP	2000	2000
3 dB Beamwidth, Deg. E Plane	56	57
Side Lobe Attenuation, dB	>40	>40
Boom Length, ft (m)	20 (6.10)	14 (4.27)
Boom Diameter, In (cm)	2.0	2.0
	(5.08)	(5.08)
Longest Element, ft (m)	23.33 (7.11)	23.16(7.06)
Element Center Dia, in (cm)	1 (2.5)	1 (2.5)
Turning Radius, ft (m)	15.4 (4.72)	13.5 (4.11)
Mast Size Range, in (cm)	1.5-2.0	1.5-2.0
	(3.8-5.1)	(3.8-5.1)
Wind Load, ft^2 (m^2)	4.5 (.42)	3.4 (.32)
Weight, lb (kg)	25 (11.34)	20 (9.07)



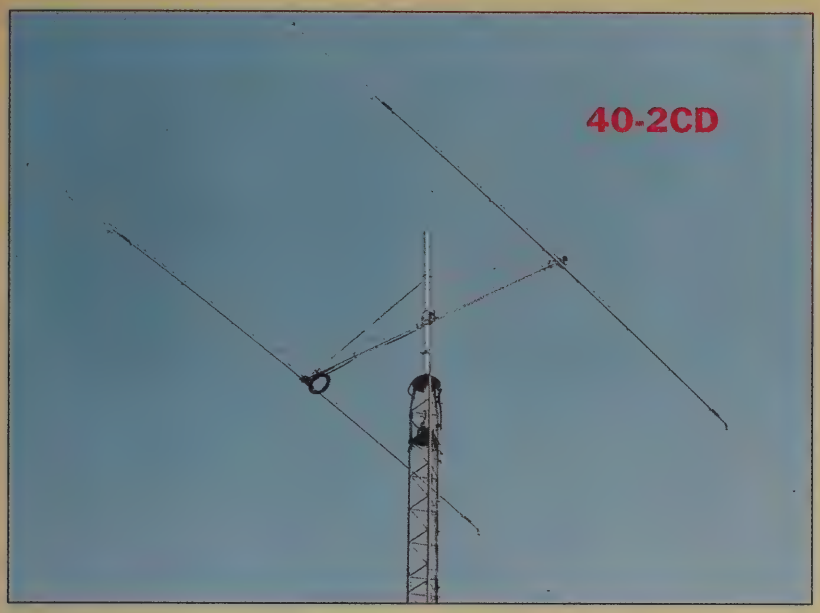


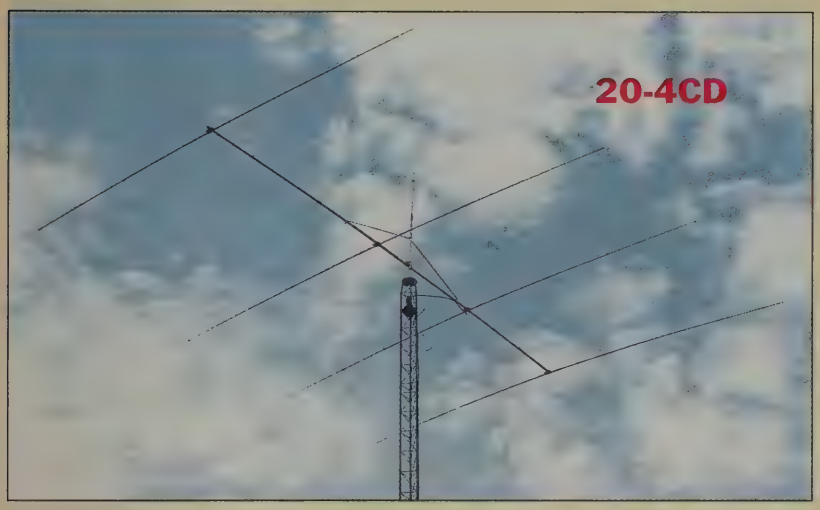


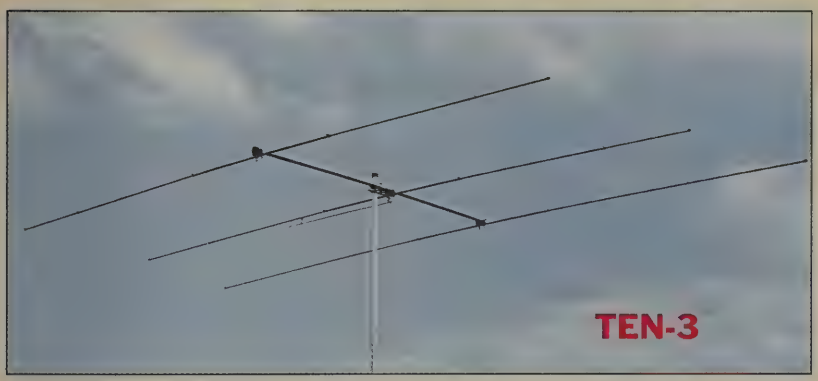
Typical 3 Element Pattern

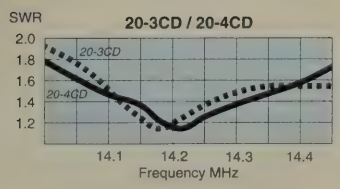
Skywalker Monoband HF Yagis

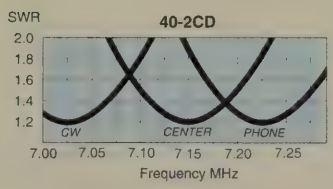
10, 20, 40 Meters











40 Meters

This Skywalker holds the North American contact record for 40 meters. A two element compact antenna, it has the performance that you want for 7 MHz work. The dipole center insulator is heavy duty with a twin terminal 50 Ohm connection. It is by far the most popular two element 40 meter beam!

20 Meters

Our four-element 20 meter Skywalker and its three element compact version will punch your signal through the QRM.

Stainless steel fasteners and double U-bolt brackets ensure that your antenna will last for years.

10 Meters TEN-3

Looking for a lightweight, economical alternative to the 10 meter Skywalkers? Choose the TEN-3. Although its popular with novices and technicians, this antenna is for any ham who wants more gain with a good front to back ratio on 10 meters. This antenna has an 8 foot boom making it easy to install on a very simple mount with only a lightweight rotator. The matching system is our proven Reddi Match for 50 Ohm no balun feed and SO-239 connector. Make more positive contacts with the new TEN-3.

MODEL	40-2CD	TEN-3
Frequency, MHz	7.0-7.3	28-29.7
No. Elements	2	3
Forward Gain, dBd	5.5	8
Front to Back Ratio, dB	20	25
SWR 1.2:1 Typical		
2:1 Bandwidth, KHz	200	>1500
Power Rating, Watts PEP	2000	2000
3dB Beamwidth, Degrees		
E Plane	70	64
Side Lobe Attenuation	>40	>40
Boom Length, ft (m)	23(6.9)	8 (2.44)
Boom Diameter, in (cm)	2.13-1.88(5.4-4.8)	1.38-1.25(3.5-3.2)
Longest Element, ft (m)	43 (12.9)	18 (5.49)
Element Center Dia., in (cm)	1.25 (3.1)	.75 (1.9)
Turning Radius, ft (m)	23.93 (7.29)	9.8 (3.0)
Mast Size Range, in (cm)	1.5-2(3.8-5.1)	1.5-2(3.8-5.1)
Wind Load, ft^2 (m^2)	6.38 (.57)	2.0 (.20)
Weight, lb (kg)	44 (19.8)	9.9 (4.45)

MODEL	20-4CD	20-3CD
Frequency, MHz	14.0-14.35	14.0-14.35
No. Elements	4	3
Forward Gain, dBd	10.0	8.0
Front to Back Ratio, dB	30	30
SWR 1.2:1 Typical		
2:1 Bandwidth, KHz	>400	>300
Power Rating, Watts PEP	2000	2000
3dB Beamwidth, Degrees		
E Plane	56	57
Side Lobe Attenuation, dB	>40	>40
Boom Length, ft (m)	32 (9.75)	20 (6.1)
Boom Diameter, in (cm)	2.13-1.88(5.4-4.8)	2.0 (5.08)
Longest Element, ft (m)	36.08 (11.00)	35.95(10.96)
Element Center Dia., in (cm)	1.25 (3.1)	1.25 (3.1)
Turning Radius, ft (m)	23.75 (7.2)	20 (6.1)
Mast Size Range, in (cm)	1.5-2(3.8-5.1)	1.5-2(3.8-5.1)
Wind Load, ft^2 (m^2)	8.1 (.75)	5.5 (.51)
Weight, lb (kg)	55 (24.95)	30 (13.61)

2 Meters

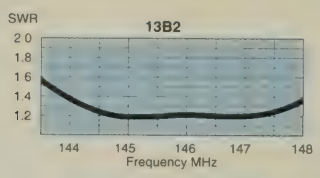
17B2 - 17 Element CW/SSB

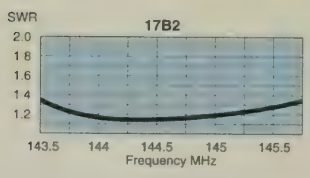
The serious two meter operator who is interested in EME, aurora, scatter, SSB, CW, tropo etc, will choose the 17B2. It has 17 elements on a 4.5 wavelength boom. Our computer-aided design supported by precise test range data and the latest manufacturing technology gives you a cleaner pattern and 18 dBd gain in this long boom design. Significant enhancement is provided by the new UltraMatch balanced feed system with N-connector. The improved Boomer brace system is easier to install. 17B2 is a new stronger Boomer with a cleaner profile, less weight and wind load. All these features result in contest winning performance and more day to day operating enjoyment.

13B2 -13 Element Wideband

The new 13B2 is as versatile as the 17B2 is specialized. 13B2 will be your choice for high performance across the entire 2 meter band. New and experienced hams will enjoy 15.8 dBd gain on FM, packet, CW, or sideband across the 4 MHz operating range. The 13B2 is easily mounted vertically or horizontally for maximum performance on your favorite mode. Its optimum boom length makes it a popular antenna that fits just about anywhere. The new UltraMatch balanced feed on the 13B2 provides a 50 Ohm match via a standard SO-239 UHF female connector.

MODEL	13B2	17B2
Frequency, MHz	144-148	144-145
No. Elements	13	17
Forward Gain, dBd	15.8	18.0
Front to Back Ratio, dB	26	26
SWR 1.2:1 Typical		
2:1 Bandwidth, MHz	>4	>2
Power Rating, Watts PEP	2000	2000
3 dB Beamwidth, Degrees		
E Plane	2 x 18	2 x 14.5
H Plane	2 x 19	2 x 15
Side Lobe Atten., dB, E Plane	>60	>60
Boom Length, ft (m)	15 (4.57)	31 (9.45)
Electrical Wavelength	2.2	4.5
Longest Element, in (cm)	39.75 (101)	40.75 (103.5)
Turning Radius, ft (m)	8.9 (2.7)	17.25 (5.26)
Mast Size Range, in (cm)	1.5-2	1.5-2
	(3.8-5.1)	(3.8-5.1)
Wind Load, ft^2 (m^2)	1.8 (.17)	3.9 (.36)
Weight, lb (kg)	6.7 (.31)	15.75 (7.14)





Boomers are easily stacked for more gain. See page 17 for details.

"The 13B2 was very easy to assemble. Very good instructions. High quality parts. A very neat looking antenna." (NM8T)

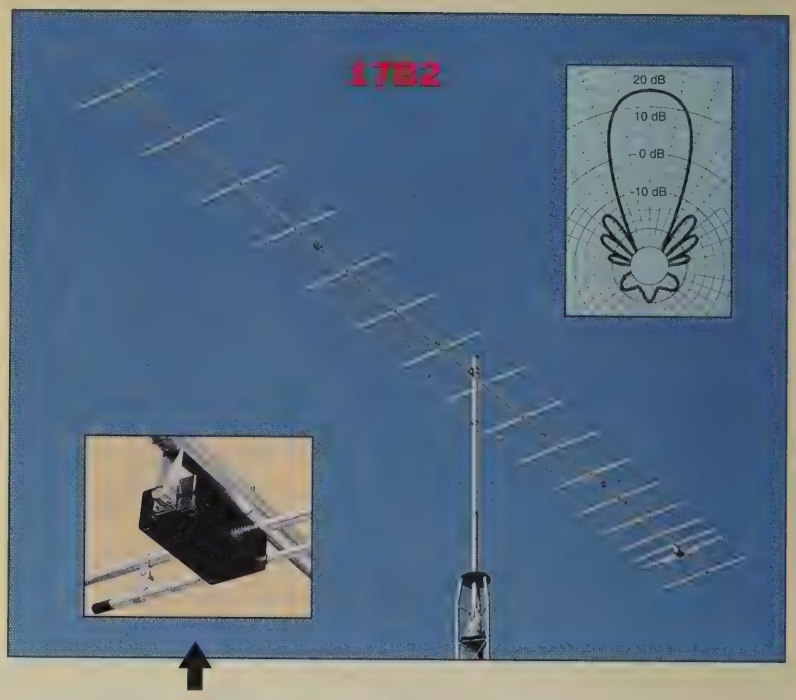
"Reliable contacts [on 13B2] to repeaters 100 miles using low power. Horizontally polarized 150 miles plus." (N9MHV)

"New 17B2 is nice improvement over 4218XL both mechanically and electrically." (VE3ASO)

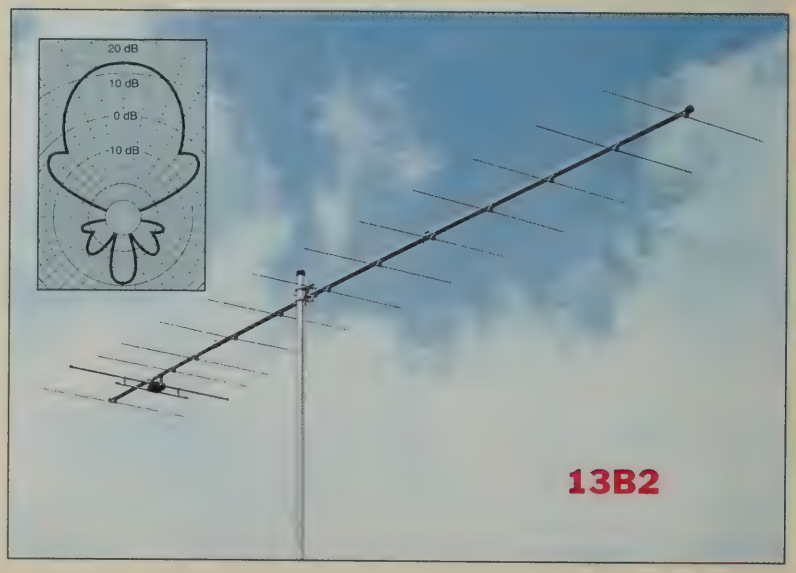
The Boomer tradition continues.

New Boomers offer more gain and cleaner patterns with greater mechanical strength. New element spacings and lengths plus an improved feed system make it happen. Select from the 17B2 for the strongest signal on the low end of the band or the 13B2 for broadband performance across the band.

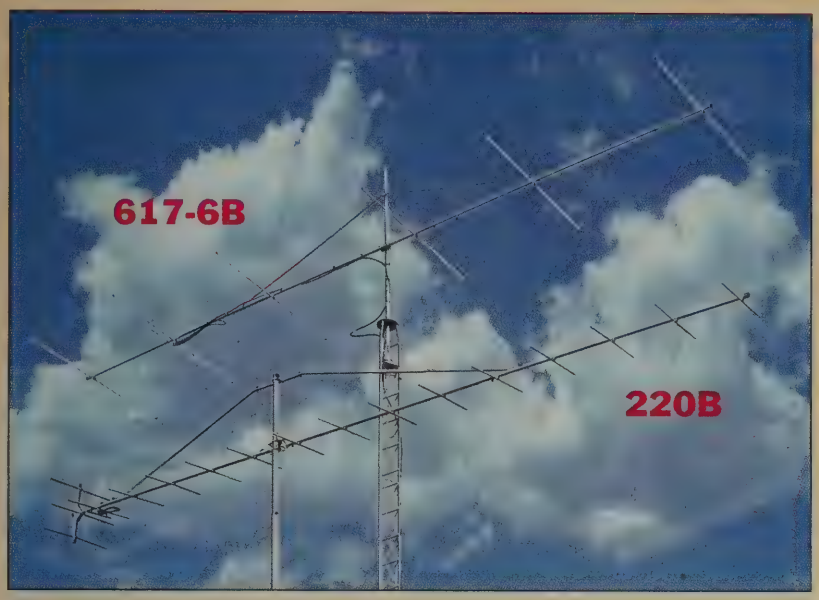
Cushcraft Boomers all feature solid rod elements, stainless steel hardware and very easy to follow assembly instructions. Simple tools and a little time are all that are needed for assembly. The new Boomer line will make your operating time more rewarding and enjoyable. Move up to the new Boomers today.



The new Cushcraft UltraMatch is a modified T-match system that provides a balanced current distribution on your Boomer. It uses UltraLink teflon® dielectric cable allowing for low loss high power applications. UltraMatch is completely enclosed for weather proofing. UltraMatch features an N-connector on the 17B2 and UHF SO239 on the 13B2. When all weather performance is important, you will choose the new UltraMatched Boomers everytime.



70 CM, 1¼, 6 Meters



Two NEW 70 CM Yagis

These new Cushcraft antennas are designed for easy assembly. The elements are mounted atop the boom with stainless traditional hardware. The feed systems employ a UM4N balun enclosed in a UV stabilized housing. The 719B uses a broadband folded dipole while the 729B utilizes a modified T-match.

1-1/4 Meters

We took the features of our 2 meter antennas and incorporated them into a high-gain 1-1/4 meter antenna that is perfect for this fast growing band. You will have more fun with Cushcraft!

6 Meters

Our 617-6B has more gain than any antenna in its class! The serious 6 meter operator will appreciate the features of this great performing Boomer. Find out for yourself.

MODEL	617-6B	220B
Frequency, MHz	50-51	222-223
No. Elements	6	17
Forward Gain, dBd	14.0	17.2
Front to Back Ratio, dB	30	30
SWR 1.2:1 Typical		
2:1 Bandwidth MHz	>1	>2
Power Rating, Watts PEP	2000	2000
3 dB Beamwidth, Degrees		
E Plane	2 x 19	2 x 13
H Plane	2 x 20	2 x 14
Side Lobe Atten., dB, E Plane	60	60
Boom Length, ft (m)	34 (10.36)	19 (5.8)
Electrical Wavelength	1.7	4.2
Longest Element, in (cm)	117 (297.2)	26 (66.2)
Turning Radius, ft (m)	17.7 (5.39)	9 (2.64)
Mast Size Range, in (cm)	1.5-2 (3.8-5.1)	1.5-2 (3.8-5.1)
Wind Load, ft^2 (m^2)	4.8 (.45)	2.6 (.24)
Weight, lb (kg)	26 (11.79)	10.5 (4.77)

719B FM, CW and SSB 15.5 dBd

Looking for an antenna to enhance performance on all modes of the 70 CM band? The 13.5 foot long 719B is the right choice. Mount it vertical for FM or horizontal for CW and Sideband. The 719B joins the 2 meter 13B2 as a classic for improved performance.

729B CW and SSB 17.8 dBd

This is the new leader in performance for 70 CM activity. Assembly is easy. Tuning is even easier with our modified T-matching network. The modified-T allows for increased bandwidth over conventional T-matches. It includes capacitive elements which allow for more adjustment. Teflon® cable is used for power efficiency. The non-drooping boom does not require a support strut. Mount several in an array for increased gain.

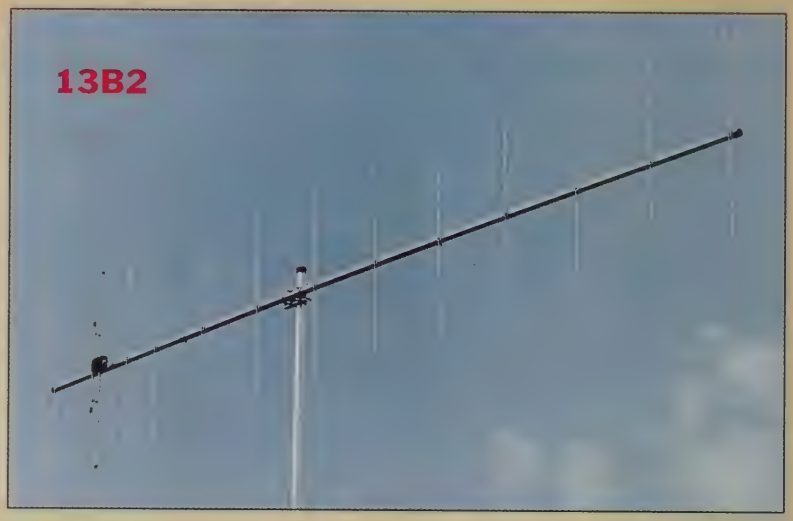
MODEL	719B	729B
Frequency, MHz	430-450	430-440
No. Elements	19	29
Forward Gain, dBd	15.5	17.8
Front to Back Ratio, dB	25	25
SWR 1.2:1 Typical		
2:1 Bandwidth MHz	20	>10
Power Rating, Watts PEP	2000	2000
3 dB Beamwidth, Degrees		
E Plane	24	20
H Plane	19	22
Side Lobe Atten., dB, E Plane	60	60
Boom Length, ft (m)	13.5 (4.1)	22.17 (6.75)
Electrical Wavelength	6	9.8
Longest Element, in (cm)	13.75 (34.9)	13.75 (34.9)
Turning Radius, ft (m)	7.25 (2.2)	12.5 (3.8)
Mast Size Range, in (cm)	1.25-2 (3.2-5.1)	1.25-2 (3.2-5.1)
Wind Load, ft^2(m^2)	1.2 (.11)	2.2 (.21)
Weight, lb (kg)	5.6 (2.55)	8.6 (3.9)

1¼, 2 Meters

cushcraft CORPORATION

13B2 - 13 Element Wideband

Boomer evolution continues with the 13B2. This new design is lighter weight, lower profile and has more gain and a cleaner pattern. New technicians and experienced hams will enjoy 15.8 dBd gain on FM, packet, CW, or sideband. 13B2 is easily mounted vertically for greatest FM distance and enjoyment. Its optimum boom length makes it a popular antenna that fits almost anywhere. The new balanced UltraMatch provides a 50 Ohm UHF connector for easy feedline attachment. Stronger performance in the 215WB tradition will be yours with the 13B2.



124WB - 4 Element Wideband

This is the right choice for packet systems and other applications requiring a dedicated directional antenna.

All of these antennas give you hot performance with light weight and minimum windload. Stainless steel hardware, solid rod elements and hard drawn aluminum tubing assure you that the antenna will last.

MODEL	124WB	13B2	26B2
Frequency, MHZ	144-148	144-148	144-148
No. Elements	4	13	26
Forward Gain, dBd	10.2	15.8	18.8
Front to Back Ratio, dB	19	26	26
SWR 1.2:1 Typical			
2:1 Bandwidth, MHz	>4	>4	>4
Power Rating, Watts PEP	2000	2000	2000
3dB Beamwidth, Degrees			
E Plane	60	2x18	2x18
H Plane	88	2x19	2x9.5
Side Lobe Attenuation,			
dB, E Plane	40	>60	>60
Boom Length, ft (m)	4 (1.22)	15 (4.57)	15 (4.57)
Electrical Wavelength	.5	2.2	2.2
Longest Element, in (cm)	40.75 (104)	39.75 (101)	39.75 (101)
Turning Radius, ft (m)	4 (1.22)	8.9 (2.7)	10.4 (3.18)
Mast Size Range, in (cm)	1.25-2	1.5-2	1.5-2
	(3.2-5.1)	(3.8-5.1)	(3.8-5.1)
Wind Load, ft^2 (m^2)	.34 (.034)	1.8 (.17)	4.84 (.45)
Weight, lb (kg)	3 (1.36)	6.7 (.31)	21.5 (9.75)

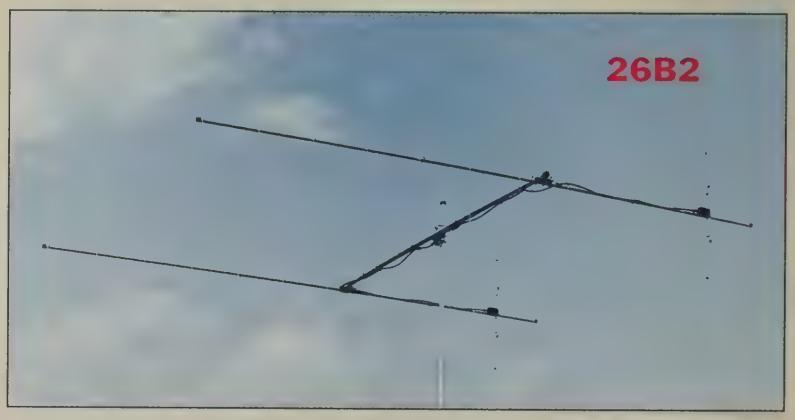
224WB/225WB - 220 MHz Widebands

Perfect for the novice phone band and other 220 MHz operation.

MODEL	224WB	225WB
Frequency, MHZ	222-225	222-225
No. Elements	4	15
Forward Gain, dBd	10.2	15.5
Front to Back Ratio, dB	24	24
SWR 1.2:1 Typical		
2:1 Bandwidth, MHz	>5	>5
Power Rating, Watts PEP	2000	2000
3dB Beamwidth, Degrees		
E Plane	60	2x17
H Plane	88	2x19
Side Lobe Attenuation,		
dB E Plane	40	60
Boom Length, ft (m)	3 (.91)	10 (3.05)
Electrical Wavelength	0.5	2.2
Longest Element, in (cm)	26.7 (68)	26.3 (67)
Turning Radius, ft (m)	3 (.91)	5.8 (1.78)
Mast Size Range, in (cm)	1.25-2	1.25-2
	(3.2-5.1)	(3.2-5.1)
Wind Load, ft^2 (m^2)	.23 (.021)	.95 (.09)
Weight, lb (kg)	1.7 (.77)	5.25 (2.4)

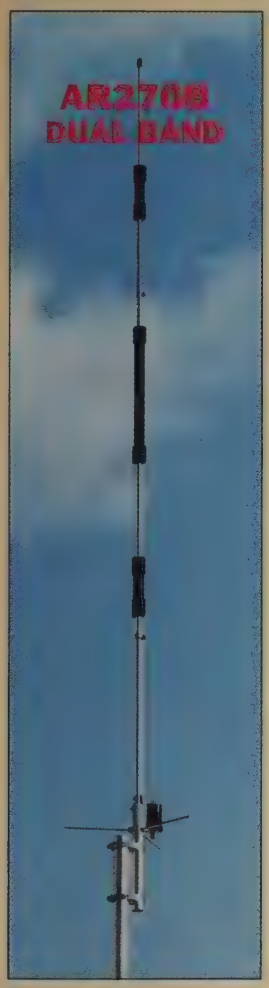
26B2 - 26 Element Wideband

This antenna offers the highest gain of any 2 meter FM antenna in the world. Select the 26B2 when you need to work repeaters or simplex over extreme distances.



70 CM, 2 Meters

Cushcraft brings you the leading edge of dual band technology with new 70cm/2m products - The All-American Dual Bander, a high performance fiberglass base antenna, the long range AR270B and the CS270M mobile mag-mount. These great products will complement our already proven AR270 dual band compact base antenna.



AR-270B 5.5/7.5 dB Dual Band Ringo

This all new model gives very high gain with a low angle of radiation and it is only 7.7 feet (2.35 m) high. The AR270B is computer optimized with two 5/8 wavelength collinear elements on 2 meters and four 5/8 wavelength elements on 70 cm. It is broadbanded for minimum SWR on both bands. It is easy to assemble with three rugged aluminum tubing sections, a durable mast mount and factory sealed coils for best performance.

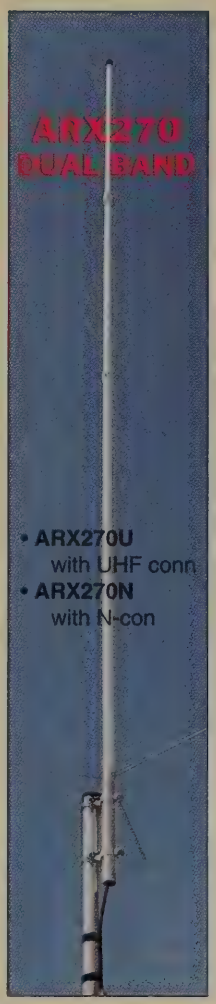
MODEL	AR270		AR270B	
Frequency, MHz	144-148	430-450	144-148	430-450
SWR 1.2:1 Typical				
2:1 Bandwidth, MHz	>4	>15	>4	>15
Gain, dB	3.7	5.5	5.5	7.5
Power, Watts FM	250	250	250	250
Horizontal Radiation				
Pattern, Degrees	360	360	360	360
Height, ft, (m)	3.75 (1.13)		7.7 (2.3)	
Mast Size Range, in	1.25-2 (3.2-5.1)		1.25-2 (3.2-5.1)	
Radial Length, in (cm)	6.75 (17.1)		6.75 (17.1)	
Wind Load, ft2 (m2)	0.27 (0.03)		0.47 (0.044)	
Weight, lb (kg)	2 (0.9)		2.4 (1.09)	

AR270 3.7 / 5.5 dB Dual Band Ringo

The "Dual Wonder" AR270 is only 3.75 feet (1.1 meters) high. It has great performance for its size, making it the most popular 2m/70 cm base antenna.

All-American Dual Band Ringo

Cushcraft's new ARX270 high performance fiberglass base antenna yields a gain of 9 dB on VHF and 12 dB on UHF. Our exclusive non-metallic UV stabilized couplings result in the cleanest pattern of any dual band antenna. The radome is bright white, thick-wall fiberglass that will survive 90 mph winds. The three section design allows easy assembly and is U.P.S. shippable. Our sleek extruded base clamps eliminate vibration and they look great. Professional features like the factory installed pigtail feed and choice of UHF or N connector makes weather-proof connections easy. These technical innovations put the ARX270 miles ahead. The All-American Dual Bander comes factory tuned and does not require any adjustments. The ultimate in dual-band FM enjoyment can be yours with the ARX270.



Introducing Cushcraft Gold!

The Gold Standard in Mobile Design!

Style, Performance, and Price. Cushcraft selected an award winning industrial design firm to develop an aesthetically pleasing, unique profile for automotive travel in the 90's, and our RF design team engineered in new standards of quality, performance and features. We call it Cushcraft Gold. This slim-line, aerodynamic design antenna provides 5.5 dB on 440 and 3.7 dB on 2 meters. Cushcraft Gold starts with a solid brass base which is nickel plated, then powder coated to look and work like new for years. The base assembly is engineered to resist shock and vibration. A stainless steel spring and nickel plated base contact assure maximum RF transfer. The weather resistant rubber O-ring around the base, helps keep out moisture and provides for scratch free roof-mounting. Both the base matching network and the center phasing coil are housed, inside temperature and shock-resistant Delrin®. The whip is heavy duty stainless-steel to resist corrosion. We've even included a unique tilt-over feature so you don't have to remove the whip to enter a garage with a low ceiling. This is all the antenna you'll need for years of trouble-free communications. Available with Mag-mount or mount to existing 3/4" roof mount.

MODEL	ARX270U/N	
Frequency, MHz	144-148	430-450
SWR 1.2:1 Typical		
2:1 Bandwidth, MHz	>4	>20
Gain, dB	9	12
Power Rating, Watts FM	200	200
Horizontal Radiation		
Pattern, Degrees	360	360
Height, ft, (m)	16.5 (5)	
Mast Size Range, in	1.25-2 (3.2-5.1)	
Radial Length, in (cm)	20.5 (52.1)	
Wind Load, ft2 (m2)	0.95 (0.088)	
Weight, lb (kg)	5 (2.3)	

CS270M

70 CM / 2M Mobile

The CS270M offers the most gain possible in its compact size. It has 6 dB on 440 and 3.7 dB on 2 meters all in a 36-1/2" tall design. The small coil is insert molded into the center of the radiator. No moisture can penetrate the coil with this technique. The magnetic mount features a clinging 90 pound pull and a roof-protecting rubber pad. The feed line is double shielded Teflon® UltraLink Cable.™ Its low-loss, high temperature and designed to last. The CS270M has all of the features you will need in a dual-band mobile antenna.

See page 12.

70 CM, 1¼, 2 Meters

Our Ringos are Number One.

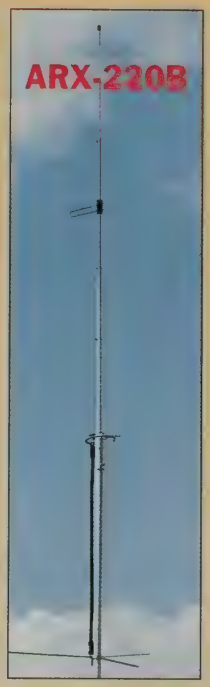
Tough performers at a good price! The Ringo family of dependable, cost-effective antennas has served more hams - from novice to veteran extra - than any other amateur antenna made. Simple, straightforward design, light weight and quick, easy installation make the durable Ringo family right for you. Ringo's top performance and low cost mean more dB per dollar - an equation anyone can appreciate.

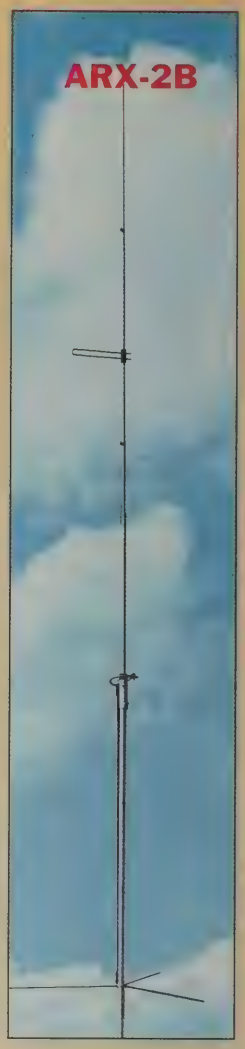
Ringo Ranger II

Our Ringo Ranger II has more gain, less windload, and more mechanical integrity than other two meter antennas. You'll quickly appreciate the benefits of this amazing antenna! Based on the original W1BX Ringo, the Ringo Ranger II is the latest design featuring three 5/8 wave radiating elements and an adjustable 1/8 wave phasing stub. The result is a very low angle of radiation over your coverage area.

The Ringo Ranger II has built-in lightning protection, UV-stabilized insulators, heavy wall tubing, improved decoupling radials to eliminate feedline radiation, and all-weather performance. The ARX-450BN has all the features of the standard antenna plus N-connector.

MODEL	ARX-2B	ARX-220B	ARX-450B
Frequency, MHz	135-160	222-225	435-450
SWR 1.2:1 Typical			
2:1 Bandwidth, MHz	>3	>5	>10
Gain, dB	7.0	7.0	7.0
Power Rating, Watts FM	1000	500	500
Radiation Angle, Deg.	7	7	7
Horizontal Radiation			
Pattern, Degrees	360	360	360
Ring Diameter, in (cm)	5 (12.7)	5 (12.7)	3.5 (8.9)
Radiator Base Dia, in (cm)	.75 (1.9)	.75 (1.9)	.50 (1.2)
Height, ft, (m)	14 (4.3)	9.3 (2.8)	4.9 (1.5)
Mast Size Range, in (cm)	1.0-1.25	1.0-1.25	.75-.88
	(2.54-3.1)	(2.54-3.1)	(1.9-2.22)
Radial Length, in (cm)	20.5 (52.1)	13.75 (33.7)	6.75 (17.1)
Wind Load, ft^2 (m^2)	0.5 (0.05)	0.3 (0.03)	0.2 (0.02)
Weight, lb (kg)	6 (2.7)	5 (2.3)	1 (.45)





Some hams comment on the ARX-2B:
"Since I put this antenna up I have received many compliments on the improvement of my signal." (N3LHP)

"The only antenna I ever installed that worked like it should the first time." (N7PGH)

"ARX-2B is a good antenna for my use on 2 meters FM...Several on the air in my area." (N9OPL)

"ARX-2B...the best antenna." (XE2CLB)

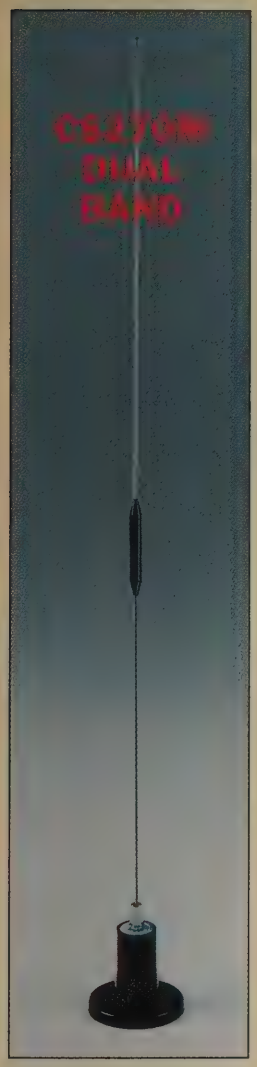
MODEL	A270-10S		A270-6S	
Frequency, MHZ	144-148	430-450	144-148	430-450
No. Elements	5	5	3	3
Forward Gain, dBd	10	10	7.8	7.8
Front to Back Ratio, dB	20	18	20	18
SWR 1.2:1 Typical				
2:1 Bandwidth, MHz	≥4	≥10	≥4	≥20
Power Rating, Watts PEP	350	350	350	350
3dB Beamwidth, Degrees				
E Plane	52	52	66	66
H Plane	60	60	108	108
Boom Length, ft (m)	6.17 (1.9)		2.8 (.85)	
Longest Element, in (cm)	40.3 (102.4)		41 (104.1)	
Turning Radius, ft (m)	6 (1.8)		2.8 (.85)	
Mast Size Range, in (cm)	1.25-2		1.25-2	
	(3.2-5.1)		(3.2-5.1)	
Wind Load, ft^2 (m^2)	.725 (.07)		.3 (.02)	
Weight, lb (kg)	1.8 (.81)		1.7 (.8)	

A270-10S and A270-6S
10 and 7.8 dB Dual Band Yagis

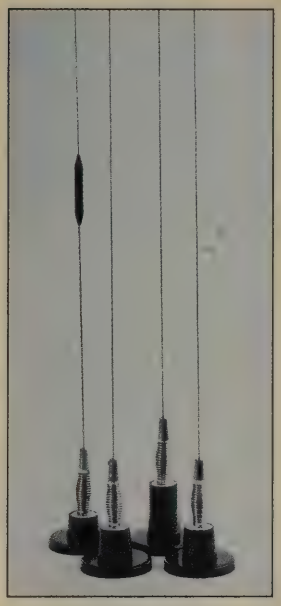
Increase your range by selecting one of the new Cushcraft dual band Yagis on 2 meters and 70 cm. You can point the antenna at stations while you are in QSO with them. This will direct more of your output power when transmitting at the same time reducing interference and increasing signal strength when receiving. These antennas are perfect for packet applications. Assembly is a snap with our fully illustrated assembly manuals. The A270-10S has nearly twice the performance of the A270-6S. Select the antenna for your station depending on the distance of your contacts.

70 CM, 1¼, 2, 6, 10 Meters

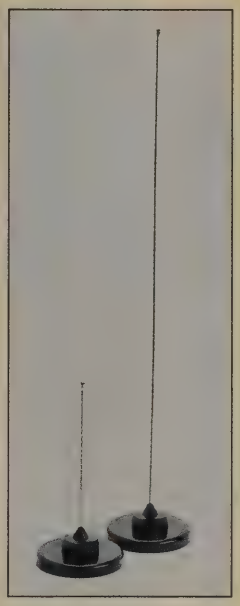
Cushcraft/Signals mobiles offer the high performance that you need for consistent and mobile communications such as commuting and public service activities. These antennas are the choice of hams and communications professionals around the world who demand high quality, premium products.



SEE YOUR LOCAL DEALER'S CUSHCRAFT MOBILE DISPLAY



GAIN MOBILE ANTENNAS

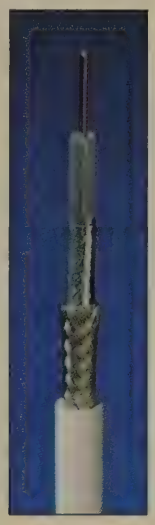


QUARTERWAVE MOBILES

BLACK MAG MOUNT

TRUNK LIP MOUNT

UltraLink Cable™



UltraLink™ Cable

Cushcraft UltraLink cable was designed specifically for high efficiency commercial mobile applications to 900 MHz. UltraLink's RG-58 size allows easy installation through the tightest openings, while its Teflon® dielectric provides the highest temperature tolerance to handle vehicle hot-spots that would melt other dielectric materials. Additional 100% shielding is provided by a jacket of easy-peel foil. All this is covered by 97% braid for easy, secure connector attachment. More of your signal will get through with UltraLink than with any other mobile cable.

CS28M Ten Meter Mag-Mount

Work a new country while you wait for the light to change. Introduced just last year, the CS28M ten meter mag-mount has become a constant companion to today's popular 10 meter multimode mobile rigs. The CS28M comes complete, ready to go with a 49" stainless steel whip and spring and a Euro-Style black poly-coated 90 pound pull magnet. A heavy rubber pad protects your car's finish; twelve feet of Cushcraft's own UltraLink™ low-loss cable (specifically designed for commercial mobile applications to 900 MHz) and PL259 connector are included with the CS28M.

Gain and Quarterwave Mobile Antennas

Cushcraft's years of commercial and amateur experience apply cutting-edge designs to consistently high quality materials to produce the best mobile antennas you can buy.

All inductors (and even the coil contacts) are silver plated for better RF conductivity, and all Cushcraft mobile hardware is brass to prevent the seizing inherent with inferior, dissimilar-metal joints. All Cushcraft mobile coil housings are ABS, impervious to temperature changes and ultraviolet radiation. Brass base threads, ultrasonically welded into coil housings, eliminate premature failures associated with inferior fastening techniques, and Cushcraft insert-molded 440 MHz phasing coils assure weather-tight integrity. Only Cushcraft mobile antenna mounts are entirely 50 Ohms, eliminating lossy "VSWR bumps" common in many well known designs. Cushcraft quarter-wave models (CS1147 and CS1450) are broadband, require no tuning and include UltraLink™ low loss cable.

Magnetic Mounts

Cushcraft mag-mounts stay where you put them. Our 90 pound pull magnets are the strongest you'll find. Euro-style black poly finish protects against rust, and a tough rubber pad gives maximum protection to your vehicle's finish. Ultra-Link™ cable on all Cushcraft mobile antennas means more of your signal reaches your antenna every time you key the mike.

Model No.	Frequency MHz	Whip Length in	Whip Length m	Description
CG270A	144-148 / 440-450	34	.86	3/4" Hole
CG270AE	144-146 / 430-440	34	.86	3/4" Hole
CG144A	144-148	49	1.25	3/4" Holw
CG144AE	144-146	49	1.25	3/4" Hole
CS270M	144-148/440-450	34	.86	Magnetic
CS270A	144-148/440-450	34	.86	Coil & Whip
CS147M	144-174	49	1.25	Magnetic
CS147T	144-174	49	1.25	Trunk Lip
CS147	144-174	49	1.25	3/4" Hole
CS147A	144-174	49	1.25	Coil & Whip
CS1147M	144-148	20	.5	Magnetic
CS220M	222-225	33	.84	Magnetic
CS220T	222-225	33	.84	Trunk Lip
CS220	222-225	33	.84	3/4" Hole
CS450M	435-470	29.5	.75	Magnetic
CS450T	435-470	29.5	.75	Trunk Lip
CS450	435-470	29.5	.75	3/4" Hole
CS1450M	430-450	7	.17	Magnetic
CS50M	46-54	49	1.25	Magnetic
CS50T	46-54	49	1.25	Trunk Lip
CS50	46-54	49	1.25	3/4" Hole
CS28M	28-30	49	1.25	Magnetic
CSMG	90 lb pull mag mount, PL259 & 12 ft UltraLink Cable®			
CSMGN	90 lb pull mag mount, N-conn & 12 ft UltraLink Cable®			

70 CM, 1¼, 2, 6, 10 Meters

cushcraft CORPORATION

Ringo Ranger

NEW ARX-6

The ARX-6 was developed to meet the needs of serious 6 meter FM hams. It has twice the gain of the standard AR-6. If your operating style requires the most gain and wide-area coverage from a repeater or home station, the ARX-6 is made for you.

ARX-2

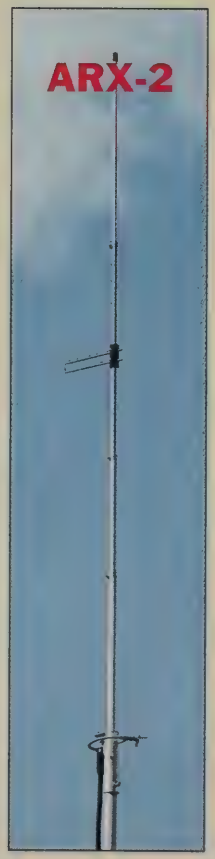
This is the 2 meter antenna that combines good gain with compact size. If space does not allow extra height or decoupling radials, the ARX-2 will do the job.

MODEL	ARX-6	ARX-2
Frequency, MHz	50-54	135-160
SWR 1.2:1 Typical		
2:1 Bandwidth, MHz	>4	>6
Gain, dB	5.5	5.5
Pwr Rating, Watts FM	1000	1000
Radiation Angle, Deg.	16	16
Horizontal Radiation Pattern, Degrees	360	360
Ring Diameter, in (cm)	13 (33)	5 (12.7)
Base Dia, in(cm)	2 (5.1)	1.5 (3.8)
Height, ft, (m)	24 (7.3	9.3 (2.8)
Mast Range, in (cm)	1.5-1.75 (3.8-4.4)	1-1.25 (2.54-3.2)
Wind Load, ft^2 (m^2)	1.9 (.18)	.33 (.03)
Weight, lb (kg)	7.5 (3.4)	4 (1.8)

Ringo

These are the original W1BX FM Ringos. If you want a combination of compact size, wide bandwidth, a low radiation angle, these economical antennas are just for you. Since radials are not needed, you can even use our Ringos indoors. Our Ringos are 1/2 wave and include built-in lightning protection. Put up one of these easily installed antennas and start enjoying FM!

MODEL	AR-2	AR-6	AR-10	AR-220	AR-450
Frequency, MHz	135-160	50-54	28-29.7	222-225	440-460
SWR 1.2:1 Typical					
2:1 Bandwidth, MHz	10	2	>1.5	10	20
Gain, dB	3.75	3.75	3.75	3.75	3.75
Power Rating, Watts FM	1000	1000	1000	500	500
Radiation Angle, Deg.	16	16	16	16	16
Horizontal Radiation Pattern, Degrees	360	360	360	360	360
Ring Diameter, in (cm)	5 (12.7)	13 (33)	13 (33)	5 (12.7)	3.5 (8.9)
Radiator Base Dia, in(cm)	.75 (1.9)	1 (2.5)	1 (2.5)	.75 (1.9)	.5 (1.3)
Height, ft, (m)	3.9 (1.2)	10.1 (3.1)	17.6 (5.36)	2.6 (.78)	1.4 (.43
Mast Size Range, in (cm)	1-1.25 (2.54-3.1)	1-1.25 (2.54-3.1)	1-1.25 (2.54-3.1)	1-1.25 (2.54-3.1)	.75-.88 (1.9-2.22)
Wind Load, ft^2 (m^2)	.21 (.02)	.37 (.03)	1.68 (.16)	.21 (.02)	.1 (.01)
Weight, lb (kg)	1.5 (.68)	2.5 (1.1)	4 (1.8)	1.2 (.55)	1 (.45)



Four Pole Arrays

Cushcraft's four 1/2 wave dipole array is perfect for your repeater or as a powerful base antenna. Strong through-the-boom dipole mounting ensures long life and superior electrical characteristics. The dipoles mount to your tower's legs or on a separate support mast (not included). They can be arranged for omni or elliptical patterns.

MODEL	AFM-4DA	AFM-24DA	AFM-44DA
Frequency, MHz	144-148	222-225	435-450
Gain, dBd	9 Offset 6 Omni	9 Offset 6 Omni	9 Offset 6 Omni
SWR 1.2:1 Typical			
2:1 Bandwidth, MHz	>4	>5	>15
Power Rating, Watts FM	500	500	250
Radiation Angle Degrees	6	6	6
Horizontal Radiation Pattern, Degrees	360-Variable	360-Variable	360-Variable
Height, ft (m)	23 (7.0)	15 (4.5)	8 (2.4)
Mast Size Range, in (cm)	1.5-2.0 (3.8-5.1)	1.5-2.0 (3.8-5.1)	1.25-2.0 (3.2-5.1)
Wind Load, ft^2 (m^2)	2.54 (.24)	1.85 (.17)	1.13 (.11)
Weight, lb (kg)	7 (3.2)	6 (2.7)	5 (2.3)

70 CM, 2 Meters

Performance and Value Leaders

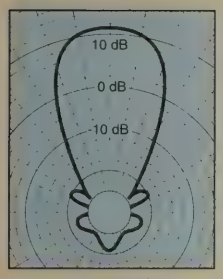
A148-10S and A148-3S are the newest computer optimized models of our 2 meter Yagis. We have improved both the pattern and gain of these antennas to give you better FM coverage. They have direct 50 Ohm Reddi-Match with SO239 connector and stainless steel hardware.

A148-3S is the low priced quality leader for Packet, FM or even portable use. It is easily rear mounted.

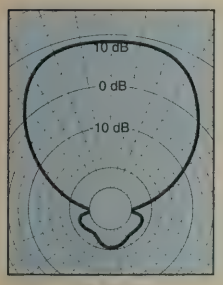
A148-10S is one of our best value designs with excellent gain and front-to-back ratio. Use it for long range FM or full band 2 meter operation.

For even higher gain the all new A148-20S is a complete antenna array with two ten element Yagis, stacking frame, harness and stainless steel hardware.

Model	A148-3S	A148-10S	A148-20S
Frequency, MHz	144-148	144-148	144-148
No. Elements	3	10	20
Forward Gain, dBd	7.8	13.2	16.2
Front to Back Ratio, dB	25	24	24
SWR 1.2:1 Typical			
2:1 Bandwidth, MHz	>5	≥4	≥4
Power Rating, Watts PEP	1000	1000	1000
3dB Beamwidth, Degrees			
E Plane	66	40	20
H Plane	108	46	46
Boom Length, ft (meters)	2.8 (.85)	12(3.6)	12 (3.6)
Longest Element, in (cm)	41 (104.1)	40.3 (102.4)	40.3 (102.4)
Turning Radius, ft (m)	2.8 (.8)	6 (1.8)	6.6 (2.0)
Mast Size Range, in (cm)	1.25-2.0 (3.2-5.1)	1.25-2.0 (3.2-5.1)	1.25-2.0 (3.2-5.1)
Wind Load, ft^2 (m^2)	0.27 (0.02)	1.21 (0.11)	2.82 (0.26)
Weight, lb (kg)	1.5 (0.7)	6 (2.7)	15 (6.8)

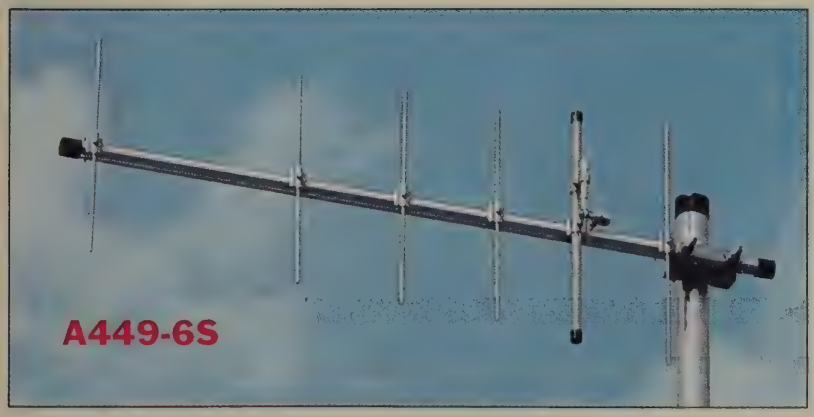


A148-10S



A148-3S

MODEL	A449-6S	A449-11S
Frequency, MHz	440-450	440-450
No. Elements	6	11
Forward Gain, dBd	10.5	13.2
Front to Back Ratio, dB	18	20
SWR 1.2:1 Typical		
2:1 Bandwidth, MHz	>10	>10
Power Rating, Watts PEP	350	350
3dB Beamwidth, Degrees		
E Plane	60	48
Boom Length, ft (m)	2.9 (0.89)	4.2 (1.35)
Longest Element, in (cm)	13 (33)	13 (33)
Turning Radius, ft (m)	2.9 (.89)	2.8 (.85)
Mast Size Range, in (cm)	1.25-2.0 (3.2-5.1)	1.25-1.5 (3.2-3.8)
Wind Load, ft^2 (m^2)	0.30 (0.03)	0.39 (0.04)
Weight, lb (kg)	3 (1.4)	4 (1.8)



Stacking Kits

Our VPK stacking kits for the antennas above are supplied complete with mounting boom, harness, and hardware.

Antenna	Frequency MHz	Complete Kit	Harness Only
A148-3S	144.5-148	A14-VPKS	A14-SK
A148-10S	144.5-148	A148-VPKS	A148-SK
A449-6S	440-450		A449-SK
A449-11S	440-450	A449-VPKS	A449-SK

70 CM, 2 Meters

Reliable satellite communications will be yours with the new Cushcraft OSCAR antennas. The new 22XB two meter and 738XB 70 cm circularly polarized Boomer antennas offer the flexibility you need. Buy them both to create the best station possible or use a single antenna to upgrade an existing installation. Cushcraft provides polarization switches with both antennas. There are no additional options needed. Each antenna includes complete instructions on the mounting and installation of your OSCAR antenna system.

NEW 22XB 2M OSCAR

Stronger signals will link your station with the satellite of your choice. Cushcraft's new 22XB OSCAR Boomer gives you the excellent performance that hams around the world have experienced with the Boomer antenna series. Clean patterns, 14 dBdc gain, superb circularity, and rugged construction are all part of the package. The polarity relay to switch from right to left circular polarization is included. These new designs are resistant to changes brought about by the weather. Construction of the 22XB features all stainless steel hardware. The boom is an extra rugged 1-1/2" diameter 6063-T832 aluminum alloy. Aim your new 22XB at the satellite and you'll be enjoying OSCAR at its best.

NEW 738XB 70 CM OSCAR

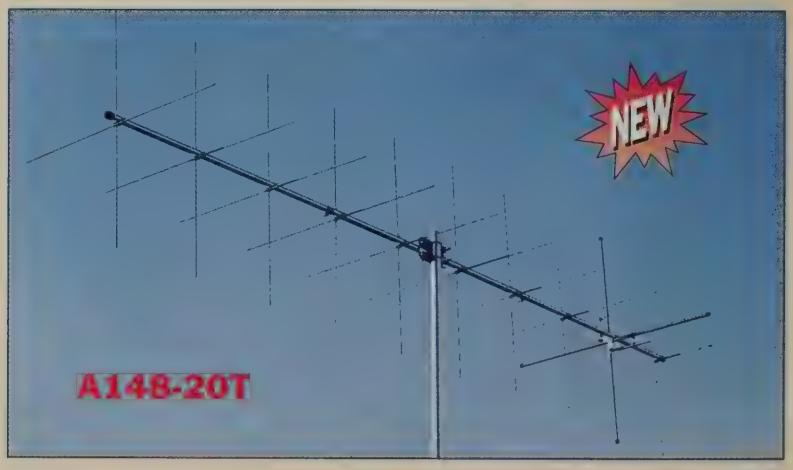
Computer aided design and superior engineering are combined to make 738XB the finest 70 CM OSCAR antenna available. The longer boom means more gain. Thirty-eight optimally spaced elements on a rugged 14.3 foot boom mean 15.5 dBdc of gain for your station. Easily overcome the QRM and be on your way to more successful QSO's. Excellent ellipticity means that as the satellite rotates your signals will stay steady. Cushcraft's 738XB features a built-in polarity switcher. All stainless steel hardware, the rugged 6063-T832 aluminum boom, and the weather-sealed polarity switch all add up to the best choice for the serious OSCAR operator. Assemble a winning station by choosing Cushcraft satellite antennas.

MODEL	22XB	738XB
Frequency, MHz	144-148	432-438
No. Elements	22	38
Forward Gain, dBdc	14	15.5
Front to Back Ratio, dB	25	25
Ellipticity dB at boresight	2	2
SWR 1.2:1 Typical		
2:1 Bandwidth, MHz	4	6
Power Rating, Watts PEP	600	250
3dB Beamwidth, Degrees		
E Plane	30	24
Boom Length, ft (m)	19.33 (5.9)	14.33 (4.37)
Longest Element, in (cm)	39.19 (99.6)	13.94 (35.4)
Turning Radius, ft (m)	11 (3.35)	8.5 (2.6)
Mast Size Range, in (cm)	1.5-2.0 (3.8-5.0)	1.5-2.0 (3.8-5.0)
Wind Load, ft^2 (m^2)	2.6 (.24)	1.4 (.13)
Weight, lb (kg)	11 (5)	7.6 (3.5)
Polarity switch	Included	Included

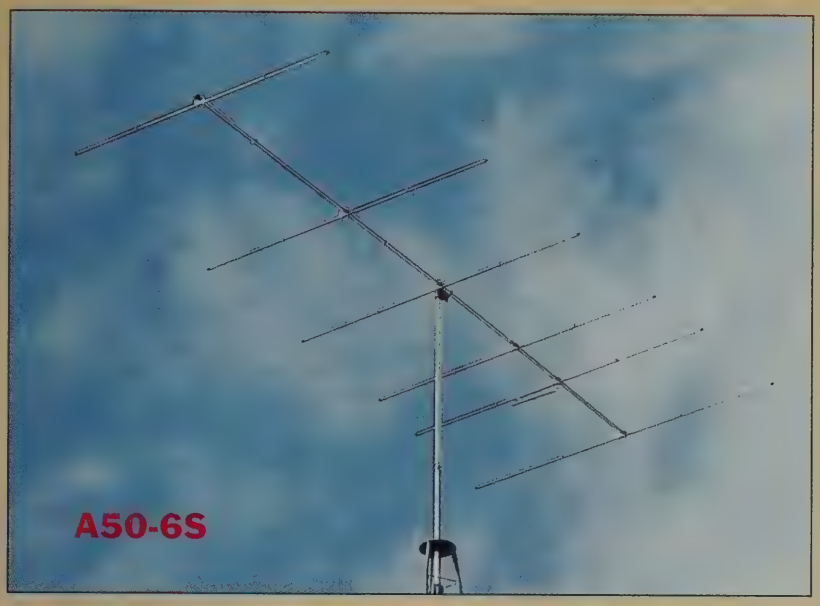
NEW A148-20T 2 Meter Hi-Lo Cross Yagi

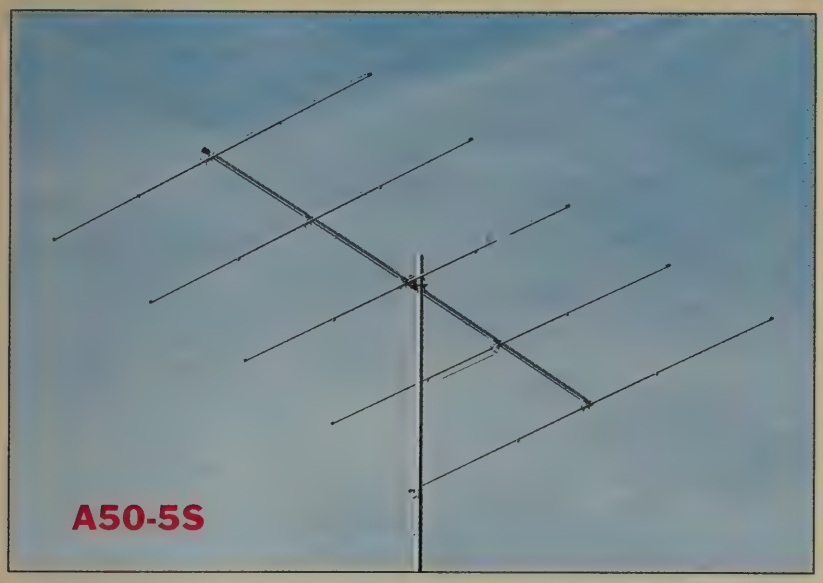
Here's the antenna that solves multi-mode problems! Ten vertically polarized and ten horizontally polarized elements provide 11.1 dBd gain covering 144-148 MHz. The horizontal elements handle your CW and SSB needs, while the vertical elements cover FM. Hardware is stainless steel.

A148-20T has a boom length of 11 ft. (3.4m), longest element length of 40.6 in. (103cm), wind area of 1.21 ft^2 (.11m^2), and a mast size of 1.25-2 in. (3.2-5.1 cm).



70 CM, 2, 6 Meters

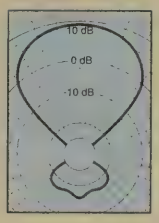




6 Meters

Computer-aided modeling and test range techniques were used by Cushcraft engineers to further optimize the performance of our popular 6 meter Yagis. This process means more gain and cleaner patterns with excellent front-to-back ratios. S-models have very broad bandwidth so they will not detune in bad weather. They feature stainless steel hardware for long trouble-free life. Enjoy the new popularity and exciting contacts on the 6 meter band with one of the S-series Cushcraft Yagis.

MODEL	A50-3S	A50-5S	A50-6S
Frequency, MHZ	50-54	50-54	50-54
No. Elements	3	5	6
Forward Gain, dBd	8	10.5	11.6
Front to Back Ratio, dB	20	24	26
SWR 1.2:1 Typical			
2:1 Bandwidth, MHz	>1	>1	>1
Power Rating, Watts PEP	1000	1000	1000
3dB Beamwidth, Degrees			
E Plane	76	56	48
Boom Length, ft (m)	6 (1.8)	12 (3.7)	20 (6.1)
Longest Element, in (cm)	117 (300)	123 (312)	119 (302)
Turning Radius, ft (m)	6 (1.8)	7.8 (2.37)	11.5 (3.5)
Mast Size Range, in (cm)	1.5-2 (3.8-5.1)	1.5-2 (3.8-5.1)	1.5-2 (3.8-5.1)
Wind Load, ft2 (m2)	1.80 (0.17)	2.9 (0.273)	4.46 (.41)
Weight, lb (kg)	7 (3.2)	11 (5.0)	18 (8.2)



A50-6S RADIATION PATTERN

70 CM / 2 Meters

A148-10S is the latest generation of our incredible 2 meter Yagis. With its computer optimized design it has outstanding gain and pattern. This antenna is for SSB, CW, tropo or any mode. It has all stainless steel hardware and SO-239 connector. Assembly is quick with easy-to-follow instructions.

For 70 cm, the always popular A430-11S has been re-designed with all stainless steel hardware.

MODEL	A144-7S	A148-10S	A430-11S
Frequency	144-146	144-148	430-435
No. Elements	7	10	11
Forward Gain, dBd	11.1	13.2	13.2
Front to Back Ratio, dB	20	24	20
SWR 1.2:1 Typical			
2:1 Bandwidth, MHz	>3	≥4	>10
Power, Watts PEP	1000	1000	350
3dB Beamwidth, Deg.			
E Plane	46	40	38
H Plane		46	
Boom Length, ft (m)	8.2 (2.5)	12 (3.6)	4.7 (1.40
Longest Element, in (cm)	40 (101.6)	40.3 (102.4)	14 (35.5)
Turning Radius, ft (m)	4.9 (1.5)	6 (1.8)	2.6 (.81)
Mast Size Range, in (cm)	1.5-2 (3.8-5.1)	1.25-2.0 (3.2-5.1)	1.25-1.5 (3.1-3.8)
Wind Load, ft^2 (m^2)	0.81 (0.08)	1.21(0.11)	0.42 (.04)
Weight, lb (kg)	4 (1.8)	6 (2.7)	3 (1.4)

Accessories

Fast Acting Gas Discharge Lightning Arresters

Protect your valuable equipment from surges of up to 5,000 amperes with a Cushcraft constant impedance LAC4 arrester! The LAC4 has a replaceable gas discharge tube which clamps voltage surges to less than 50 volts in about 100 nanoseconds-much quicker than the voltage rise time of lightning.

You cannot afford to be without lightning protection. One of the models below is right for your shack.

LAC4	200 Watt with UHF SO-239 connectors
LAC4H	2 kW with UHF SO-239 connectors
LAC4N	200 Watt with N connectors
LAC4NH	2 kW with N connectors
LC2	200 Watt replacement cartridge
LC2KW	2 kW replacement cartridge

Blitz Bug Lightning Arresters

Cushcraft also recommends this well-known series of arresters which are based on a patented three point static discharge design. The Blitz Bug has a sealed air chamber, constant static drain, and controlled voltage discharge.

The Blitz Bug is rated at 2 kw PEP to 500 MHz with negligible insertion loss.

LAC-1	with UHF PL-259 and SO-239 connectors
LAC-2	with UHF SO-239 connectors

Power Dividers For Boomers

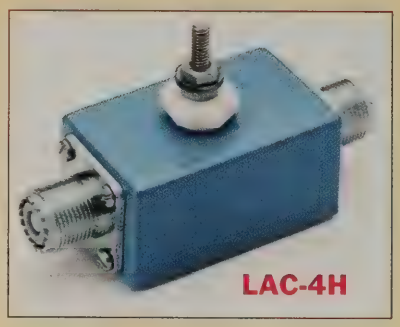
Our power dividers make it a snap to stack Cushcraft Boomers. Models for 17B2 have N-connectors. They are available for these antennas:

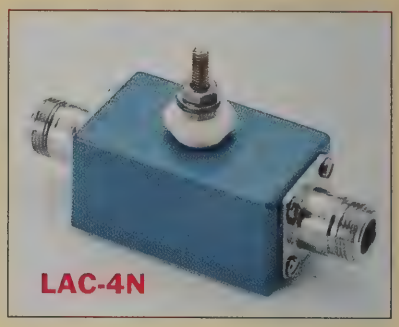
PD-2	for two 13B2, 124WB
PD-2N	for two 17B2
PD-4	for four 13B2
PD-4N	for four 17B2
PD-222	for two 220B, 224WB or 225WB
PD-224	for four 220B, 224WB or 225WB

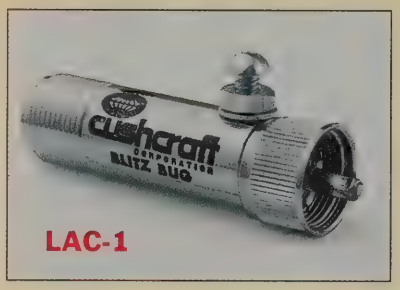
Stacking Harnesses For Boomers

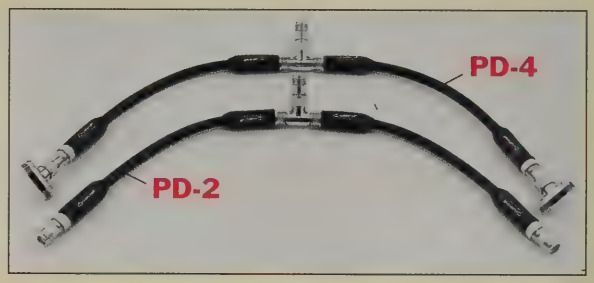
For even easier installation of our Boomers, use our installation kits that are complete with harness and power divider. Models for 17B2 have N-connectors.

617-SK	for two 617-6B's
22-SK	for two 13B2's
22N-SK	for two 17B2's









One year warranty backed by our 40 years of antenna experience.

Cushcraft antennas are designed to survive 80 mph (129 kph) winds.

For safe antenna installations, avoid contact with powerlines.

The use of lightning arresters is highly recommended.

Stainless steel hardware and high grade seamless 6063-T832 tubing used in all antennas.

Support mast, feedline and RF chokes are not included with antennas.

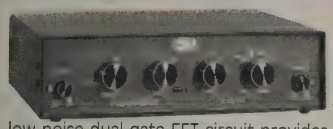
Specifications are subject to change without notice.

All Cushcraft antennas are available through dealers worldwide.

BOOMER STACKING INFORMATION

Antenna	2x617-6B	2x13B2	4x13B2	2x220B	4x220B	2x424B	4x424B	2x17B2	4x17B2
Forward Gain, dBd	17.0	18.8	21.8	19.8	22.4	20.8	23.4	21.0	24.0
Front/Back Ratio	30	24	24	30	30	30	30	24	24
E-Plane Beamwidth,deg	2x17.5	2x18	2x9	2x13	2x6.5	2x9.5	2x4.8	2x14.5	2x7.3
H-Plane Beamwidth, deg	2x10	2x9.5	2x9.5	2x7	2x5.5	2x5.5		2x7.5	2x7.5
Vert, ft	26	9.2	9.2	8	8	5	5	11.5	11.5
(m)	7.92	2.8	2.8	2.44	2.44	1.97	1.97	3.5	3.5
Horiz, ft	-	-	9.6	-	8.5	-	5.5	-	12
(m)	-	-	3.0	-	2.59	-	2.16	-	3.7
Approximate Wt, lb	62	22	44	23	76	15	55	32.5	115
(kg)	28.12	10.00	20.00	10.40	34.40	7.62	24.95	14.8	52.3

AMECO ACCESSORIES BOOKS CODE COURSES

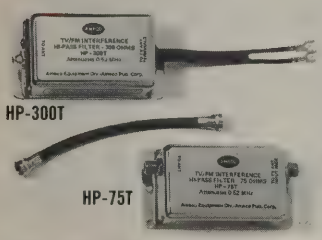


▶PT-3 Preamplifier Covers 160 thru 6 meters, useable with either a receiver or transceiver. Tunable low noise dual gate FET circuit provides more than 20dB gain with low noise figure and improved spurious and image rejection. RF sensed switch with variable delay automatically bypasses to the antenna on transmit. Second receiver and antenna capability. 12V DC. 2½"h x 8¾"w x 6½"d **$119.95**

▶P-12T AC adapter for PT-3 ..... **$9.95**

▶TPA Tunable Preamplifier/Active Antenna Can be used as a preamplifier to improve the gain of a receiver, or as an indoor active antenna. Covers 0.22 to 30MHz in 5 bands. A dual-gate FET device provides an excellent noise figure and over 20 dB gain. As a preamplifier, the input matches most antennas; long wire, 300Ω and random lengths can be used with good results. When no external antenna is available, the preamplifier's built-in 30" collapsible whip gives excellent results. Requires 9V battery or AC adapter.1½ "h x 8"w x 6½"d..... **$69.95**

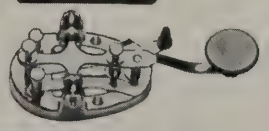
▶P-9T AC adapter for TPA **$9.50**



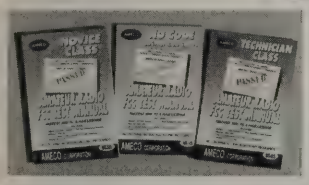
High Pass Filters Stop TV, FM and VCR interference caused by harmonics or overload from amateur transmissions, etc. Installs at TV or VCR antenna terminal. or connector. Sharp frequency cutoff at 52MHz with 70dB attenuation below 50MHz. Models for 75Ω or 300Ω TV antenna lead-ins or 75Ω cable systems. **▶Model HP-300T** (300Ω) • **▶HP-75T** (75Ω)..... each **$12.95**

▶OCM-2 Combination Code Practice Oscillator and CW Monitor with volume control, 3" speaker, and headphone terminals. Requires a code key and 9V battery.
Kit **$19.95** • Wired **$24.95**

▶K-1 Low-cost general purpose key with phenolic base, adjustable tension and contact spacing. .. **$9.95**



▶K-4 Deluxe high quality key. Polished brass base, and shorting bar..... **$14.95**



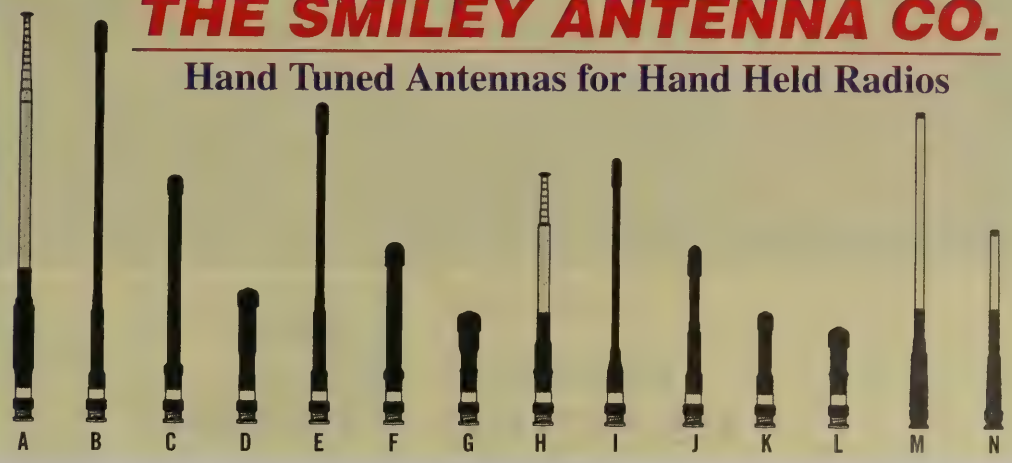
FCC Test Manuals New revised editions incorporating all the latest changes in FCC amateur radio test preparation requirements. Separate manuals are available for the Novice, Technician and the New No-Code Technician Classes All current FCC examination questions for each class, with corresponding multiple choice answers. **See AMECO in the Price List**

▶107-PC-2 The complete Morse Code Instructor for IBM PC/XT/AT or compatible. Menu driven, contains over 18 options, on-line "help" screens. Generates random characters, numbers and punctuation at any speed and tone. Generates true random QSO's, similar to FCC/VEC exams at any speed and tone. Sends text from any external data file & more! Ideal for the beginner **$29.95**

See Price list for more AMECO Publications & Code Courses

THE SMILEY ANTENNA CO.

Hand Tuned Antennas for Hand Held Radios



Each Smiley handheld antenna is individually hand tuned to resonance at band center under normal operating conditions. (No ground plane – No radials). Manufactured from the finest heat-treated copper plated spring steel coils. Cold rubber compound is used for coil insulation and a neoprene heat-shrink coating applied for strength and endurance. All have BNC connectors.

▶THIN STICK 1/4 wave telescoping dual band antenna for 144 and 220MHz bands ..... **(TS) $16.95**

▶SUPER STICK II (A) 2 meter, 5/8-wave, flexible base loaded telescoping antenna. 6-9db gain fully extended (54"); usable fully collapsed, or one section 1/4 wave. Length: 54" extended, 10" collapsed ..... **(SS-II) $19.95**

▶SUPER STICK II COMBO As above but includes a 2 meter Stubby Duck antenna (D) ..... **(SS-II/COMBO) $26.95**

▶5/8 SLIM DUCK (B) 2-meter, 5/8-wave, 7db gain, flexible base loaded antenna. 12" long ..... **(5/8 SLD-2) $17.95**

▶5/8 SLIM DUCK COMBO As above, but includes a 2 meter Stubby Duck antenna (D) ..... **(5/8 SLD-2 COMBO) $24.95**

▶REGULAR DUCK (C) For 2 meters. Tuned Ducks show a 3db gain over other Rubber Ducks because they are impedance matched for hand-helds. ..... **(RD-2) $14.95**

▶STUBBY DUCK (D) Tuned, efficient, for 2M **(RDS-2) $14.95**

▶SUPER STICK III 220MHz 5/8-wave, flexible base loaded telescoping antenna. 6-9db gain extended; usable collapsed, or a one section 1/4 wave. 36" extended, 8¾" collapsed **(SS-III) $19.95**

▶SUPER STICK III/COMBO As above but includes a 220MHz Stubby Duck antenna (G) ..... **(SS-III/COMBO) $26.95**

▶5/8 SLIM DUCK (E) 220MHz, 7db gain, flexible base loaded antenna. Length: 9" ..... **(5/8 SLD-220) $17.95**

▶5/8 SLIM DUCK COMBO As above, but includes a 220MHz Stubby Duck (G) ..... **(5/8 SLD-220 COMBO) $24.95**

▶REGULAR DUCK (F) Tuned for 220MHz ... **(RD-220) $14.95**

▶STUBBY DUCK (G) Tuned for 220MHz .... **(RDS-220) $14.95**

▶SUPER STICK IV (H) 440MHz 5/8-wave, flexible base loaded telescoping antenna. 6-9db gain extended; usable collapsed. 18" extended, 5¾" collapsed ..... **(SS-IV) $19.95**

▶SUPER STICK IV COMBO As above, but includes a 440MHz Stubby Duck (K) ..... **(SS-IV/COMBO) $26.95**

▶SLIMLINE (I) 440MHz, 1/4-wave flexible ant **(SL-440) $12.95**

▶5/8 SLIM DUCK (J) 440MHz, 7db gain, flexible base loaded antenna. Length: 5" ..... **(5/8 SLD-440) $17.95**

▶5/8 SLIM DUCK COMBO As above, but includes a 440MHz Stubby Duck (K) ..... **(5/8 SLD-440 COMBO) $24.95**

▶STUBBY DUCK (K) Tuned for 440MHz .... **(RDS-440) $14.95**

▶MINI DUCK (L) Tuned for 440MHz ..... **(RDMD-440) $14.95**

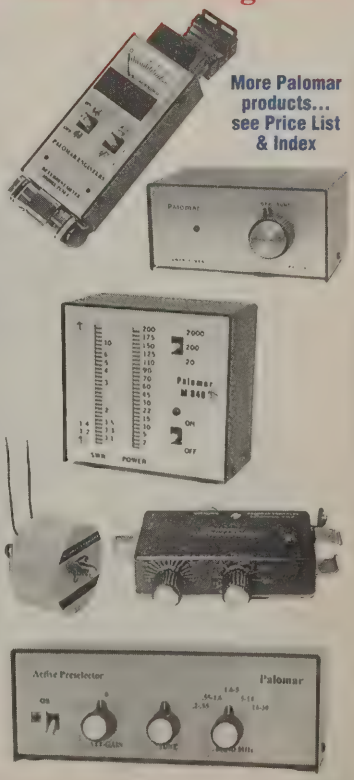
▶FLEX-COIL (M) 2 meter, 1/2-wave, 7-9 dB gain, flexible base 35" fully extended ..... **(FLX 1/2 WAV2M) $25.95**

▶270A (N) Telescoping 2m/440 gain antenna. 1/4-wave (2m) 5/8-wave (440 MHz) **$19.95**

▶TAQ 1/4-wave whip, specify **2M, 220** or **440MHz** **$10.95**

There's a Smiley for your every need!

PALOMAR Engineers



▶PCM-1 RF Current Meter Measures RF current, 1–30MHz. This clamp-on instrument allows you to check: Radial systems to find broken radials.; Antenna and feedline currents; Currents on coax shields and any wire up to 1/2" diameter. Three Ranges: 100ma, 1 amp and 5 amp full scale. Compact, handheld, 9V battery operated for use right at your antenna. 6"w x 2"h x 2"d, 9 oz. **$129.95**

▶PT-340 Tuner-Tuner Eliminate QRM and overheated final tubes and devices by adjusting your station antenna tuner without transmitting. Installs permanently between rig and antenna tuner. Turn it on, and listen to the noise output in your receiver, adjust your station tuner for a dip in the noise (null); that's it! Covers 1.7 to 30MHz. Requires 9V battery. 6"w x 5"h x 3"d **$99.95**

▶M-840 SWR & Power Meter Two 30-segment LED displays show PEP or average power and SWR instantaneously and simultaneously, without calibration – just select the proper power range. Covers 1 to 30MHz with 2, 20, 200 and 2000 watt power ranges. Shows VSWR 1.0 to 10:1+. Remote sensor with 6 ft. cable. Requires 10-15 VDC @ 800ma. 4¼"w x 4¼"h x 2¼"d, 1 lb. **$189.95**

▶RX-100 Noise Bridge Just one measurement tells if your antenna is resonant, and if not, whether it is too long or too short. Shows resistance and reactance of coax fed antennas from 1–100MHz. Install between receiver and feedline. Tune receiver to frequency and adjust controls for a noise null and interpret the readings according to instructions. Useful for off-the-air tune-up of transmitters and tuners, and to adjust tuned circuit resonance. Uses 9V battery. 5¾"w x 3"d x 1¼"h..... **$89.95**

▶ SMB-5 Software program for AT-compatible computers. Uses RX-100 noise bridge readings taken at the transmitter to compute and plot antenna resistance, reactance and SWR. On 3-1/2" disk with manual **$29.95**

▶SB-4 Balun Matches 50Ω to 200Ω. For high SWR applications in multi-band dipoles, tuners, open wire line to coax conversions. Covers 1.7–30MHz, rated for 6KW PEP or 2KW CW up to 10:1 SWR. Teflon insulation, epoxy encapsulated, stainless steel eyebolt on top for support. 4" diameter x 4" high, 2 lbs..... **$89.95**

▶P-508 Active Preselector Installs between receiver and antenna system. Covers 200kHz–30MHz. High-Q tuned circuits reduce or eliminate interfering signals on the shortwave bands. New FET-Bipolar amplifier provides over 20dB gain and tolerates strong local signals without overload far better than older dual-gate technology. 9-15V DC. SO-239 connectors. 2½"h x 7¼"w x 2½"d, 0.8 lb **$99.95**

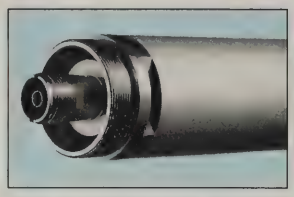
DIAMOND ANTENNAS— THE STANDARD BY WHICH ALL OTHERS ARE JUDGED

Acclaimed as the technological leader in single & multiband antennas

- Wide-band Performance • Factory Adjusted—No Tuning Required • Highest Gain
- UPS Shippable • High Wind Rating • Fiberglass Radome • DC Grounded • Stainless Hardware

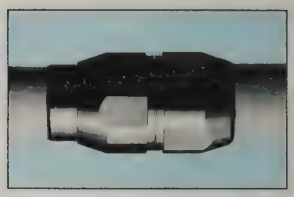
X500HNA

RUGGEDIZED BASE/REPEATER ANTENNA



COAX CONNECTION AT BASE END

HEAVY DUTY BASE/ RADIAL ASSEMBLY



STRONG JOINT COUPLINGS

147MHz

445MHz

Radiation patterns for X500HNA/X510MA/X510NA

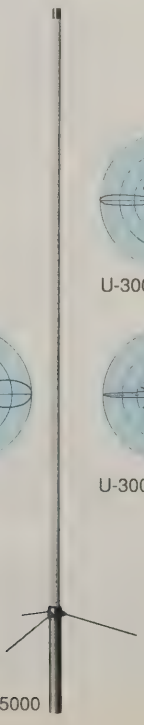
X510

U-300A 440MHz

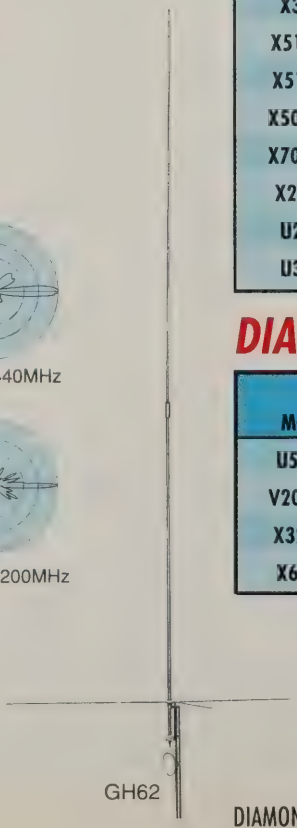
F-22

U-300A 1200MHz

F22



U5000



GH62

DIAMOND Mono-band Base/Repeater Antennas

MODEL	BAND (MHz)	GAIN (dBd.)	WATTS	CONN.	HT. FT.	RATED WIND MPH (No Ice)
DPGH62[1]	50	6.0	200	UHF	21.0	78
F22A	144	6.7	200	UHF	10.5	112
F23A	144	7.8	200	UHF	15.0	90
F142A	222	5.5	200	UHF	6.0	110
F718A[2]	440	11.5	250	N	15.0	110
F1230A	1240	13.5	100	N	10.5	90

DIAMOND Dual-Band Base/Repeater Antennas

MODEL	BAND (MHz)	GAIN (dBd.)	WATTS	CONN.	HT. FT.	RATED WIND MPH (No Ice)
X50A	144/440	4.5/7.2	200	UHF	5.6	135
X200A	144/440	6.0/8.0	200	UHF	8.3	112
X300A	144/440	6.5/9.0	200	UHF	10.2	112
X510NA[3]	144/440	8.3/11.7	200	N	17.2	90
X510MA	144/440	8.3/11.7	200	UHF	17.0	90
X500HNA	144/440	8.3/11.7	200	N	17.8	90+
X700HNA	144/440	9.3/13.0	200	N	24.0	90
X2200A	144/222	6.0/7.8	150	UHF	11.5	112
U200A	440/1240	8.3/11.7	100	N	5.9	135
U300A	440/1240	8.6/13.2	100	N	8.3	110

DIAMOND Tri-Band Base/Repeater Antennas

MODEL	BAND (MHz)	GAIN (dBd.)	WATTS	CONN.	HT. FT.	RATED WIND MPH (No Ice)
U5000A	144/440/1240	4.5/8.3/11.7	100	N	5.9	135
V2000A[1,4]	50/144/440	2.1/6.2/8.4	150	UHF	8.3	110
X3200A[5]	146/222/440	6.0/7.8/8.0	100/200	UHF	10.5	112
X6000A	144/440/1240	6.5/9.0/10.0	100/100/60	N	10.5	112

BAND: 144=144-148MHz., 222=222-225MHz., 420=420-430MHz. 430=430-440MHz., 440=440-450MHz., 1240=1240-1300MHz.

Mast requirement: 1.4"-2.4".

[1] 50 MHz antennas are adjustable
[2] F-718A: 440-450MHz., F-718J: 430-440MHz., F718L: 420-430MHz.
[3] X510NJ: 144-147/430-440MHz.
[4] 1/4λ rated in dBi.
[5] 2m: 146-148

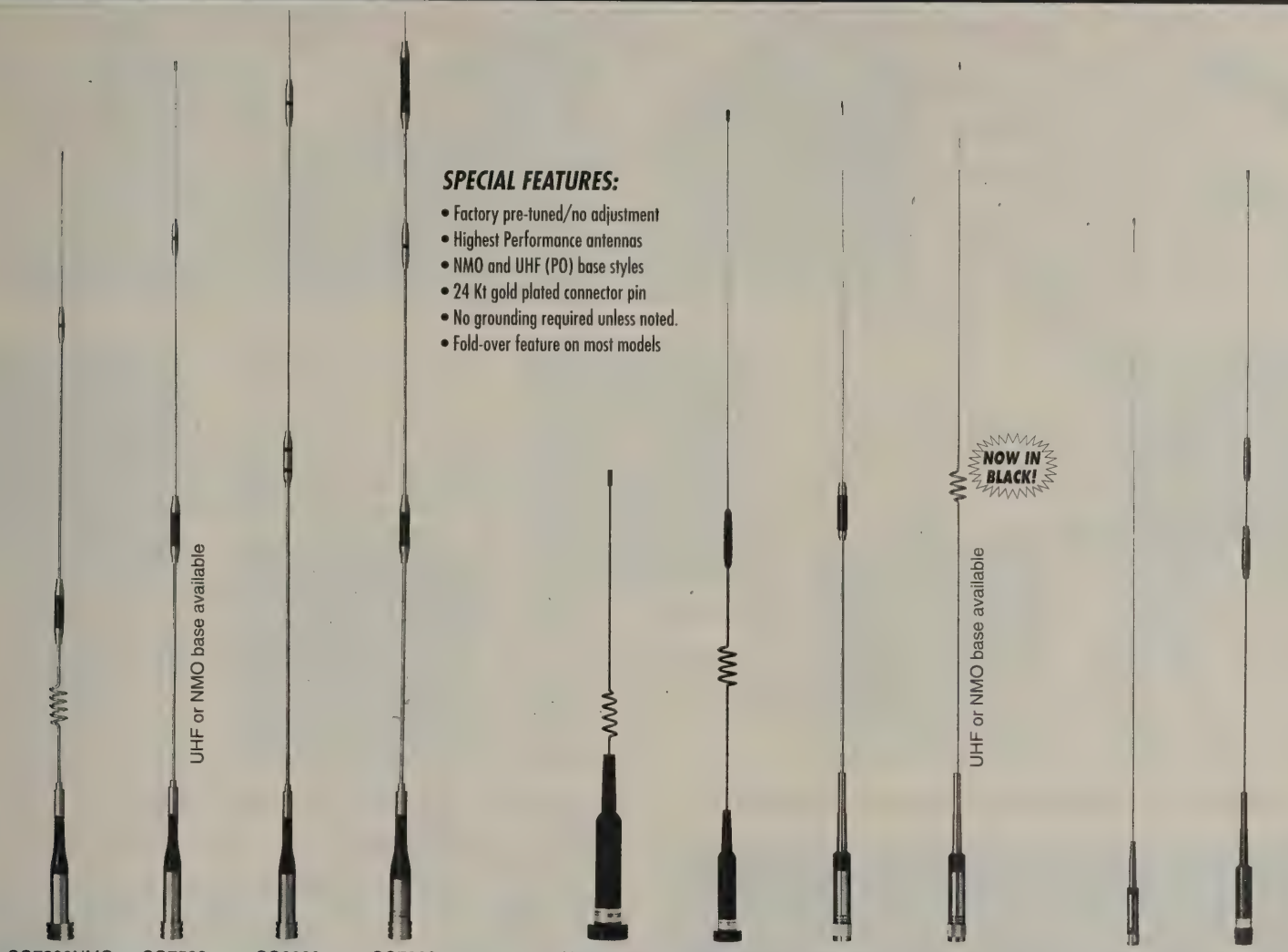
DIAMOND'S STATE-OF-THE-ART VHF/UHF MOBILE ANTENNAS—MAXIMUM PERFORMANCE WITHOUT COMPROMISE!

You've seen the rest...now own the BEST!

DIAMOND ANTENNA

SPECIAL FEATURES:

- Factory pre-tuned/no adjustment
- Highest Performance antennas
- NMO and UHF (PO) base styles
- 24 Kt gold plated connector pin
- No grounding required unless noted.
- Fold-over feature on most models



SG7200NMO | SG7500 SG7500NMO | SG2000 | SG7900 | NR72BNMO | NR73BNMO | NR770R | NR770H NR770HB | CR214S | CR320A

MODEL	BAND	GAIN (dBd.)	WATTS	CONN.	HT. IN.	ELEMENT PHASING
NR72BNMO[6]	2m/70cm	2.15	100	NMO	13.8	1/4λ, 1/2λ
NR73BNMO	2m/70cm	2.15/5.3	100	NMO	33.5	1/2λ, 1-5/8λ
NR770SA[6]	2m/70cm	2.15/2.15	100	UHF	16.9	1/4λ, 1/2λ
NR770HA[7]	2m/70cm	3.0/5.5	200	UHF	40.2	1/2λ, 2-5/8λ
NR770HNMO[8]	2m/70cm	3.0/5.5	200	NMO	38.2	1/2λ, 2-5/8λ
NR770RA	2m/70cm	3.0/5.5	200	UHF	38.6	1/2λ, 2-5/8λ
NR790A*	2m/70cm	4.5/7.2	120	UHF	57.5	6/8λ, 3-5/8λ
SG7000[6]	2m/70cm	2.15/3.8	100	UHF	18.5	1/4λ, 6/8λ
SG7200NMO	2m/70cm	3.2/5.7	150	NMO	36.6	1/2λ, 2-5/8λ
SG7500A	2m/70cm	3.5/6.0	150	UHF	40.6	1/2λ, 2-5/8λ
SG7500NMO	2m/70cm	3.5/6.0	150	NMO	41.0	1/2λ, 2-5/8λ

1/4λ antennas rated in dBi.

MODEL	BAND	GAIN (dBd.)	WATTS	CONN.	HT. IN.	ELEMENT PHASING
SG7900*	2m/70cm	5.0/7.6	150	UHF	62.2	7/8λ, 3-5/8λ
SG2000*	2m	5.2	150	UHF	62.6	7/8λ
SG6000NMO[6,9]	6m	2.1	150	NMO	39	1/4λ
NR140A	1-1/4m	3.8	100	UHF	36.2	5/8λ
NR124	23cm	8.4	100	N	25	4-5/8λ
CR214S[6]	2m/1-1/4m	2.15/3.4	120	UHF	37	1/2λ, 5/8λ
CR224A*[6]	2m/1-1/4m	5.0/6.0	150	UHF	68.5	7/8λ, 2-5/8λ
CR320A[6]	2m/1-1/4m/ 70cm	2.15/3.8/ 5.5	200/ 200/100	UHF	37.4	1/4λ, 1/2λ, 2-5/8λ
CR627B[6,9] CR627BNMO[6,9]	6m/2m/ 70cm	2.1/4.5/ 5.5	120 200/100	UHF NMO	60	1/4λ, 1/2+1/4λ/ 2-5/8λ
NR2000NA	2m/70cm/ 23cm	3.15/6.3/ 9.7	100	N	39	1/2λ, 2-5/8λ 5-5/8λ

* Not recommended for Magnet Mount
[6] Grounding required.
[7] NR770HB same specifications but in black finish.
[8] NR770HBNMO same specifications but in black finish.
[9] 50MHz antennas adjustable

FOLD-OVER

Patented One-Touch Fold-over Feature
(Not available on NR72BNMO, NR73BNMO or NR770SA.)

NEW IDEAS FROM DIAMOND
HF/VHF MULTIBAND MOBILE ANTENNAS
HIGH EFFICIENCY HT & SCANNER ANTENNAS

DIAMOND ANTENNA

NEW!

DIAMOND MV3A MOBILE ANTENNA SYSTEM

For New HF/VHF transceivers.

OPTIONAL LOADING COILS

HVC7	40m
HVC14	20m
HVC18	17m
HVC21	15m

Recommended Antenna Mounts: K400C or K600M (see previous page)

MV3A has 4 band capability — 2m, 6m, plus two HF bands through use of loading coils.

Bands Supplied:	10m/6m/2m
Opt. Loading Coils:	40m/20m/17m/15m
Power, P.E.P.:	HF 120w/VHF 200w
Mount Connection:	UHF
Length:	57″
SWR:	1.5:1 nominal

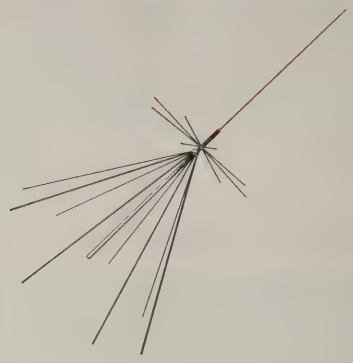
MX62M DUPLEXER SPECIFICATIONS:

HF/6m & 2m duplexer.
1.6-56 MHz LPF
76-470 MHz HPF
(76-120 receive only)

Watts:	600 P.E.P.
Loss:	.2 dB LPF .3 dB HPF
Isol.:	50 dB

Popular HF/VHF Mobile Transceivers; i.e. IC706, etc. (Or combine your 2m & HF)

DIAMOND D130J Discone



The D130J Super Discone Antenna is an ultra-wideband antenna covering amateur radio, air traffic control and other various utility frequency bands. Rust-free stainless steel is employed in major component parts making the antenna rust resistant and durable.

DESCRIPTION

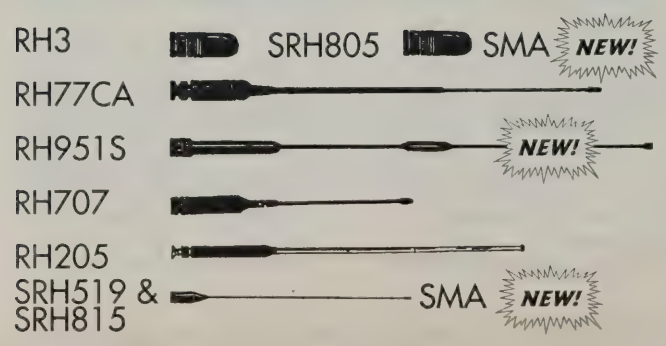
- Ultra-wideband design 25 to 1300 MHz receive.
- Compact and lightweight design enables the antenna to be installed on balcony railing at an apartment or condominium.
- Transmit on 2 m, 1 1/4 m, 70 cm, 33 cm and 23 cm amateur bands.
- The D130J can be made further compact and lightweight by removing the top loading coil if 25-50 MHz is not required.

SPECIFICATIONS

Frequency range	25 to 1300MHz receive 100 to 1300 MHz transmit
Length	1.7 m (66.9″)
Weight	1 kg (2.2 lbs.)
Max. length	0.41 m (16.1″)
Mast diameter	25 to 52 mm (0.98″ to 2.05″) with supplied mounting brackets
Max. power	200 w, 100-1300 MHz

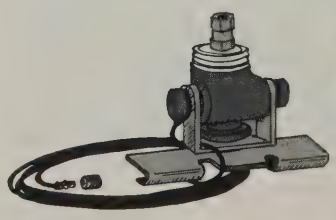
DIAMOND Receiving/Scanner Antennas

MODEL	DESCRIPTION	RELATIVE GAIN
D130J	Wideband discone 25-1300 MHz. 200 W transmit 50-1300 MHz. No cable.	N/A
RH3	2m/70cm dual band "Black Bullet" HT antenna. 1.75″ BNC. 120 to 900 receive.	-2 dB
RH77CA	High gain 2m/70cm dual band HT antenna. Receive range to 900 MHz. BNC	+6 dB
RH205	2m HT antenna, telescopic, 5/8 fully extended, 47.5″; 1/4 retracted, 9″	+9 dB
RH519	2m/70cm slim dual-band HT antenna. Flexible. 8″ BNC, 10 watts.	+3 dB
RH707	2m/70cm dual band - tiltable whip - HT antenna. 8 1/4″ BNC.	+3 dB
RH951S	High gain 2m/70cm/23cm slim tri-band HT antenna. Flexible. BNC (Wide band receive)	+6 dB
SRH519	2m/70cm/23cm dual-band HT antenna. Flexible. 8″ SMA, 10 watts.	+3 dB
SRH805	2m/70cm/23cm tri-band HT antenna. 1.75″ SMA, 10 watts.	-2 dB
SRH815	2m/70cm/23cm tri-band HT antenna. Flexible. 6″ SMA, 10 watts.	+3 dB



MODEL	DESCRIPTION
CX-210A	Heavy duty wideband coax switch, DC-1000 MHz. 1.5 kW, SO-239
CX-210N	Heavy duty wideband coax switch, DC-1500 MHz. 1.5 kW, Type N
DL-30A	Dummy load, DC-500 MHz. 15w average/100w peak. PL-259

Special Trunk Mount for 3/8x24 thread Antennas



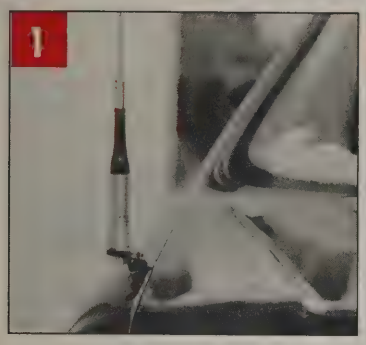
Ideal mount for Outbacker Perth, OB Jr., and other medium weight antennas.

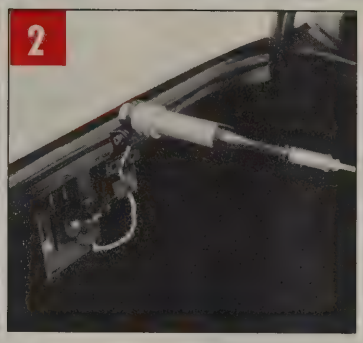
Note: use C110, 10 ft extension for front radio installation.

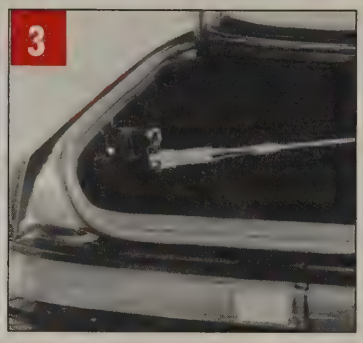
Adjustment: 2 axis
Power: 350 watts RMS 500 w P.E.P.
Cable: 6 1/2′ RG316 teflon coax w/PL-259
Spring recommended for stiff/heavy antennas.

PREMIUM GRADE ANTENNA MOUNTS AND DUPLEXERS/TRIPLEXERS BY DIAMOND

Designed for today's high performance antennas







DIAMOND'S NEW HIDE-AWAY ANTENNA MOUNT

As easy as 1, 2, 3—the new K601 Hide-away Mount folds antenna safely into the trunk. Fully adjustable, fits most vehicles.

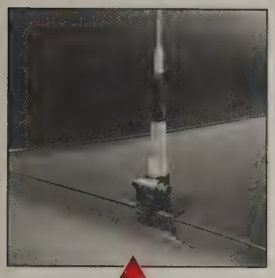
Color: Black. Choice of NMO or UHF base.

Recommended antennas: NR73BMNO, NR770HNMO, NR770HBNMO, SG7200NMO, NR770HA, NR770HB, NR770RA, SG7500A & SG7500NMO.

Cable: 6.5' RG316 Teflon coax & PL-259

K601M—UHF Base **K601NMO**—NMO Base

C110, 10' extension cable for front radio installations



K400 HATCHBACK/DOOR/TRUNK LID MOUNT

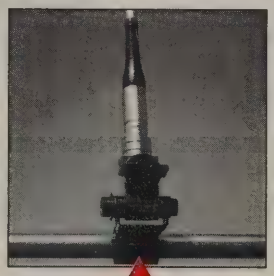
Diamond's deluxe heavy duty mount. Two-axis adjustable. Recommended for high gain VHF/UHF antennas.

K400C* SO-239 base, 6.5' coax & PL-259
K400CNMO* NMO base, 6.5' coax & PL-259
K400N Type-N base, 13.5' coax & PL-259
*Use C110, for front radio installations.

K600 VARIABLE ANGLE TRUNK MOUNT

Deluxe aerodynamic trunk mount. Vertical adjustment range 0-9%. Four set screw, stainless steel mount assembly.

K600M SO-239 base, 16.5' coax & PL-259
K600P SO-239 base, 16.5' coax & type N



K540 MIRROR/LUGGAGE RACK MOUNT

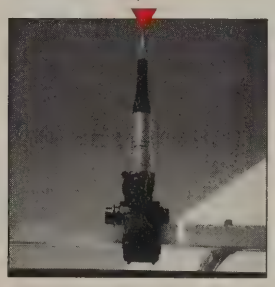
Adjustable Mirror/luggage rack mount accepts 1/2" to 7/8" tubing. Fits most mirrors and utility racks.

K540KM SO-239 base, 16.5' coax & PL-259
K540 Mount Only

K550 LUGGAGE RACK MOUNT

Adjustable luggage rack mount for new mini-vans.

K550KM SO-239 base, 16.5' coax & PL-259
K550 Mount Only



PREMIUM MAGNET MOUNT BASE

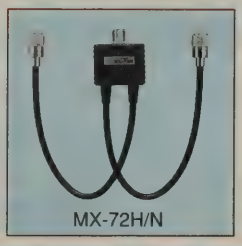
Heavy duty 2.2 lb./4" magnet mount. Rated 25-500MHz. Recommended for antennas under 45".

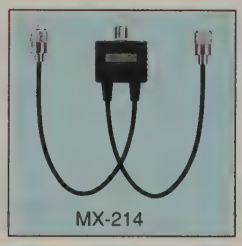
SPM-35 SO-239 base, 13' coax & PL-259
DP-SPM/58U SO-239 base, 13' coax & PL-259
DPK-4NM-M SO-239 base, 13' coax & type-N
DPK-4NM-N Type- N base, 13' coax & Type-N

DUPLEXERS AND TRIPLEXERS FOR COMBINING AND SPLITTING VHF/UHF FREQUENCIES

• Lowest loss • Maximum Band Isolation • Low VSWR

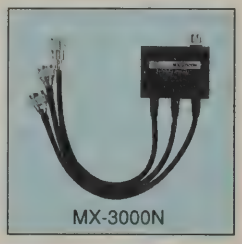
MX-72D/DN


MX-72H/N


MX-214

MX-324/MX2000

MX-3000D


MX-3000N

MODEL	MX37	MX72D	MX72DN	MX72H	MX72N	MX72J	MX214	MX214D	MX324	MX324D	MX2000	MX2000D	MX3000	MX3000N	MX3000D	MX62M
FREQUENCY BAND (MHz)	1.6-470 900-1300	LPF 1.6-30		140-150	HPF 400-460		140-150 220-225		LPF BPF HPF 1.5-150 220-225 400-550		LPF BPF HPF 1.6-60 110-170 300-950		LPF 1.6-160	BPF 350-500	HPF 850-1300	LPF HPF 1.6-56 76-470
PWR CW (ICAS)	100/50	400		150	100	400	150/100						400	200	100	600 600
WATTS P.E.P.	200/100	1000		400	250	800	300/200		800 600 500		800 800 500		800	400	200	
THRU LOSS/dB	0.25/0.45	0.15		0.15	0.25		0.3/0.4		0.3 0.4 0.4		0.15 0.2 0.25		0.2	0.3	0.4	0.2 0.3
ISOL	45dB	60dB					45dB		40-50dB		60dB		55dB			50db
VSWR	1.2:1	1.2:1					1.2:1		1.2:1		1.2:1		1.2:1			1.2:1
CONNECTOR COMPLEMENT	(N) MIX 430 1200 (M) (N)	(M) MIX 144 430 (M) (M)	(M) MIX 144 430 (M) (N)	(M) MIX 144 430 (M) (M)	(M) MIX 144 430 (M) (N)	(M) MIX 144 430 (M) (M)	(M) MIX 144 220 (M) (M)	(M) MIX 144 220 (M) (M)	(M) MIX 144 220 430 (M) (M) (M)	(M) MIX 144 220 430 (M) (M) (M)	(M) MIX 50 144 430 (M) (M) (M)	(M) MIX 50 144 430 (M) (M) (M)	(N) MIX 144 430 1200 (M) (M) (N)	(N) MIX 144 430 1200 (M) (N) (N)	(N) MIX 144 430 1200 (M) (M) (N)	(M) MIX HF/6M 2M (M) (M)
CONNECTOR	12" Cable w/ Connectors	Direct		12" Cable w/Connectors		Direct all SO-239	12" Cable w/Connectors	Direct	12"Cable w/Connectors	Direct	12" Cable w/Connectors	Direct	12" Cable w/Connectors		Direct	12" Cable w/Connectors

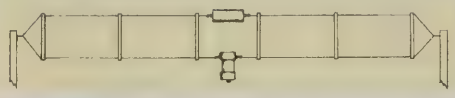
NOTE: Connectors shown as "M" are low loss equivalent of SO-239 & PL-259. Connectors shown as "N" are standard Type-N.

B&W Antennas & Accessories

Multi-Band Antennas

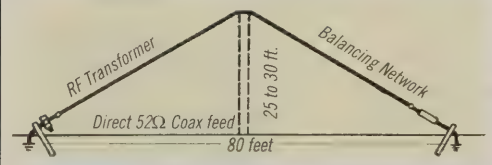
▶**AT-110 5-Band Trap Dipole** Covers 80–10M, coax feed, 110 ft. long, rated 2 KW PEP. Low VSWR on 80 and 40M; somewhat higher on 10 15 and 20M – typically 2:1 to 3:1. Wire length adjustments for tuning. Assembled **$94.95**

▶**AT-55 4-Band Trap Dipole** Covers 40–10M, 52Ω coax feed, 55 ft. long, rated at 500W PEP. Assembled **$82.95**



▶**AC 3.5-30 Broadband Folded Dipole** Covers 3.5–30MHz continuous with VSWR less than 2:1. 52Ω coax feed, 90 ft long, rated 2KW PEP. Install as a horizontal flattop, inverted-V, or sloper for DX. Assembled and tuned. **$179.95**

▶**BWD 1.8-30** Same as AC 3.5-30, but covers 1.8-30MHz continuous. Rated at 2KW PEP, 90 ft. long **$179.95**



▶**AC 1.8-30 Continuous Coverage End-fed "V"** Covers 1.8–30 MHz with VSWR less than 2:1, rated 2KW PEP. Requires 80 ft. of horizontal space, or when limited, can be shorted further with only a slight loss of efficiency. **$169.95**

Antennas for Limited Space

▶**AS-160 160/80/40/20 meter Dipole or V** 137 feet. long, half-the-length of a full-sized 160 meter dipole, yet provides excellent performance. It also gives excellent full-size performance on 80, 40 and 20 meters. Three sets of traps isolate a 1/2-wave on each band. For best match and bandwidth,. an antenna tuner is recommended for 160M operation with "no-tune-up" transceivers. Rated at 500W PEP **$154.95**

▶**AS-80 80/40/20 meter Dipole or Inverted V** Similar to the AS-160 above, except only two sets of traps. Where space is at a premium, this antenna can provide excellent coverage of 80 meters with a shortened overall length of only 78 ft. Low SWR on all three bands. Rated at 500 watts PEP **$119.95**

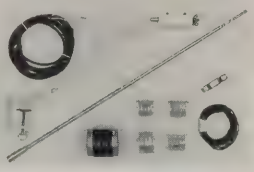
▶**AS-40 40/20/25/10 meter Dipole or Inverted V** Two sets of traps, rated at 500W PEP. Overall length is 40 ft **$154.95**

▶**AS-20 20/15/10 meter Dipole or Inverted V** Two sets of traps rated at 500W PEP. Overall length is 23 ft **$119.95**

Antennas for Very Limited Space

▶**AXS-160 160/30 meter Dipole or Inverted V** One set of traps, rated at 500W PEP. Overall length is 96 ft **$94.95**

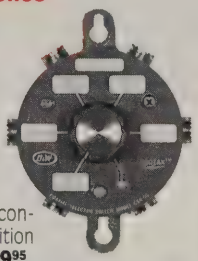
▶**AXS-80 80/40/15 meter Dipole or Inverted V** Two sets of traps, rated at 500W PEP. Overall length is 72 ft **$119.95**



▶**AP-10 Portable antenna** Only 57" fully extended. Convenient for limited space–apartments, travel, etc. Simply change coils for 2, 6, 10, 15, 18, 20, 30, or 40M. Handles 300W PEP. Includes mounting bracket, all coils, 10 ft. of coaxial cable and a counterpoise wire.. **$69.95**

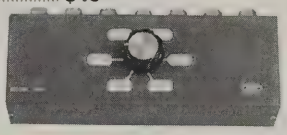
Coaxial Switches

- **52/75Ω coax • 2000W SSB**
- **Negligible insertion loss • VSWR less than 1.2:1 up to 150 MHz • Low crosstalk, -45 dB between adjacent outlets and -60dB between alternate outlets at 30 MHz**

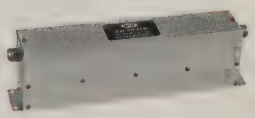


▶**CSR-5G** 5-position, side SO-239 connectors, wall mount. Grounding position for lightning protection **$49.95**

▶**CS-6G** 6-position, locates on operating desk or mounts to wall. SO-239 connectors, grounding for protection **$49.95**



Low Pass Filter



▶**FL-10/1500** Eliminates TVI due to 1.5-30 MHz transmitter harmonics. 52Ω, 1000W rating. Sharp cutoff, high attenuation of undesired harmonics with less than 0.3 db insertion loss. **$75.00**

SWIECH Communications

▶**COY2M3EL 2M Portable Antenna** Three elements on a 3 ft. boom. 4 times the Effective Radiated Power (ERP) of a dipole or J-Pole. The perfect antenna for amateurs on the go or in limited space applications. Covers the entire two meter band, 144-148 MHz. Assembles in less than one-minute. Great for mountain-topping, camping, transmitter hunts, public service events and emergencies. Rated for 75W. Lightweight and black anodized, 2 lbs **$64.95**

Bencher, Inc.

▶**ZA-1A 1:1 HF Balun** Improves performance of 80–10 meter dipoles, vees, quads and yagis. Installs at feed point to transform 52Ω unbalanced coaxial line to a 52Ω balanced. Reduces feedline radiation, increases efficiency and reduces the possibility of TVI and BCI. Designed without a ferrite core so it can accept a substantial mismatch at full legal power, allowing use of an antenna tuner for broader frequency coverage. DC grounded for lightning protection **$37.95**

HWK hardware kit for mounting to a 2" boom..... **$9.49**

▶**YA-1 Low Pass Filter** Install at the output of transmitters or transceivers operating in the 1.8 to 29.7MHz range to reduce the possibility of television interference caused by unwanted harmonics. Provides a minimum attenuation of 80db or better for harmonic radiation in TV channel two and higher. Impedance: 50Ω. Power rating: 1.5KW continuous, 5KW peak. 2½"w x 9⅛"l x 2½"h, 2 lbs **$59.95**

High Quality Bencher Keys/Keyers – See Index

Van Gorden Engineering

▶**Hi-Q Balun**
- **1:1** or **4:1** impedance ratio: For matching 52Ω unbalanced coaxial cable to 52Ω balanced antennas.
- For dipoles, yagis, inverted vees and doublets.
- Covers 3 to 40MHz, full legal power
- Replaces center insulator
- Reduces feedline radiation for more power into antenna, and less TVI and BCI problems.
- Built-in DC ground reduces noise and protects against lightning.
- Weatherproof. SO-239 connector and center support eye hook. **$14.95**

▶ **Hi-Q Antenna Center Insulator**
- Insulator only, no internal balun
- Replaces egg-type center insulator
- Small, rugged, lightweight, weatherproof. SO-239 connector, center supporting eye hook. **$6.95**

▶ **Antenna End** insulators..... each **$3.95**

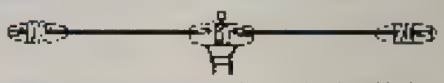
▶ **Dog Bone** Antenna insulator ..... each **55¢**

Dipole Antennas Complete with Hi-Q 1:1 balun, #14 stranded copper antenna wire, plastic insulators, and 100 ft. of nylon rope. Rated for full legal power. May be used in an inverted V configuration.

▶**D-80** for 80/75m, 130 ft. ▶**D-15** for 15m, 22 ft long
▶**D-40** for 40/15m, 66 ft long ▶**D-10** for 10m, 16 ft long
▶**D-20** for 20m, 33 ft. long **See Price List**

Shortened Dipoles Construction is the same and includes appropriate traps as pictured above. **See Price List**

▶**SD-80** for 75/80m, 90 ft. long **SD-40** for 40m, 45 ft. long



▶**All-Bander Dipole Antenna** Covers 160-10M with the use of an antenna tuner with balanced output. Full 135 ft. long (or less installed as an inverted V or sloper). Trim to fit small lots. Assembled with #14 gauge copper wire, center and end insulators and 100 ft. of 450Ω balanced line. 2KW PEP **$29.95**

▶**SHORTY All-Bander** As above, but with loading coils to shorten the physical length to 70 ft. overall **$44.95**

▶**G5RV Multiband Antenna** Covers 3.5–30MHz, and 1.8 MHz as a Marconi-type antenna with a tuner and good ground. Consists of a 102 ft. flat top with a 31 ft. section of 300Ω KW twinlead, a transformer/coupler and 70 ft. of RG-8X mini coaxial cable and connector. 2KW PEP, assembled. **$50.00**

VanGorden Ladder Line

▶100 ft. roll, 450 Ω insulated ladder line **$12.00**

▶1000 ft roll, 450 Ω insulated ladder line **99.95**

VanGorden Nylon Rope

▶**NR-100** 100 ft. roll, antenna guy rope **$4.49**

▶**NR-1000** 1000 ft roll, antenna guy rope..... **39.95**

▶*Special Connector...*

Type-N male connector for Belden 9913 coaxial cable... **$4.95**

VanGorden Ready-Made Coax Assemblies

6 to 100 ft. lengths of quality RG-8X mini-foam or RG-213 coaxial cable with Silver-Plated-Teflon dielectric and PL-259 coaxial connectors installed..... **See Price List**

KLM TRIBANDERS

The KT-34A and KT-34XA have become pace-setters for tribander performance. The four element KT-34A offers an unusually compact solution for a three-band high performance installation. The six element KT-34XA has been designed to outperform all commercially available tribanders and many monobanders as well. The high performance of these tribanders results from their innovative construction. Traps, coils, and capacitors found on conventional tribanders are replaced by lossless linear loading and high-Q air capacitors constructed of aluminum tubing. These techniques coupled with *KLM's* unique dual-driven element system allow broadband performance with high gain and low VSWR remaining nearly constant across the three bands. The KT-34A can be upgraded to the KT-34XA at any time.

The boom length of the KT-34XA is doubled, when one tri-resonant and one full size 10 meter element is added. These changes increase the gain to 11-11.3 dBd on 10M, 9-9.5 dBd on 15M, and 8.5-9 dBd on 20M.

Structurally, the KT-34A is built tough. All the aluminum, including the boom, is strong weather resistant 6063-T832 alloy. All the hardware is stainless steel except for the mounting U-bolts. Virtually indestructible Lexan insulators support the elements and insulate them from the boom. Rotation is possible by most any ham rotor. Wind balance and wind survival are excellent.

KT-34A

SPECIFICATIONS

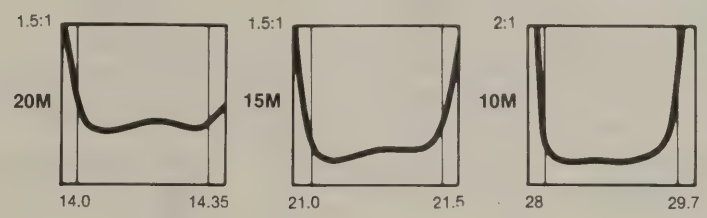
ELECTRICAL

BANDWIDTH	14.0-14.350 MHz
	21.0-21.450 MHz
	28-29.7 MHz
GAIN	7 dBd ± 0.3 dB
VSWR	1.5:1
F/B-F/S	20 dB/30 dB
FEED IMP	50 Ohms w/Balun
BALUN	4:1, 5 kW PEP

MECHANICAL

ELEMENT LENGTH	24 ft.
BOOM LENGTH	16 ft.
TURN RADIUS	16 ft.
WINDLOAD	6 sq. ft.
WEIGHT	45 lbs.
MAST	2 in. O.D.

KT34A vs. SWR



KT-34XA

SPECIFICATIONS

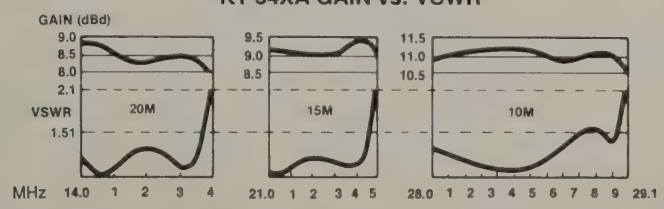
ELECTRICAL

BANDWIDTH	14.0-14.350 MHz
	21.0-21.450 MHz
	28-29.1 MHz
GAIN	8.5-9 dB
	9-9.5 dB
	11-11.3 dB
VSWR	1.5:1
F/B-F/S	20 dB/40 dB
FEED IMP	50 Ohms w/Balun
BALUN	4:1, 5 kW PEP

MECHANICAL

ELEMENT LENGTH	24 ft.
BOOM LENGTH	32 ft.
TURN RADIUS	21.5 ft.
WINDLOAD	9 sq. ft.
WEIGHT	68 lbs.
MAST	2 in. O.D.

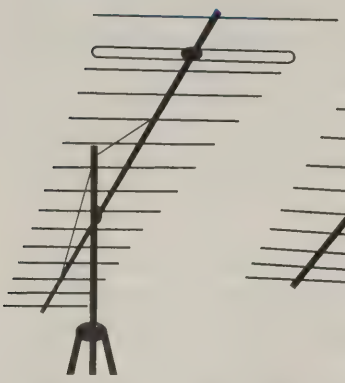
KT-34XA GAIN vs. VSWR



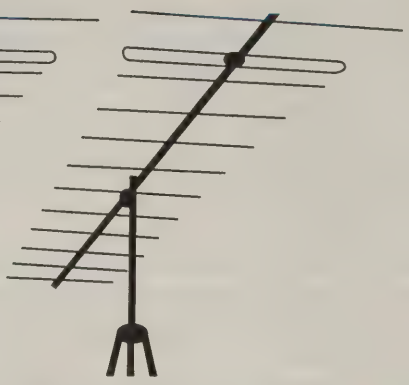
KLM VHF-UHF ANTENNAS

2 METER YAGIS

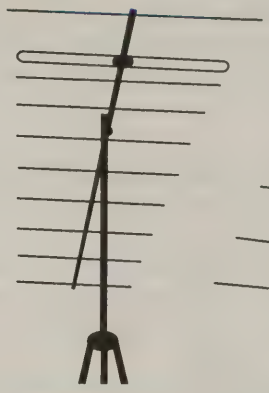
2M-15X



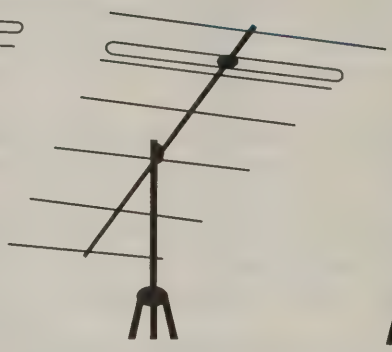
2M-12X



2M-10X



2M-7X



2M-4X

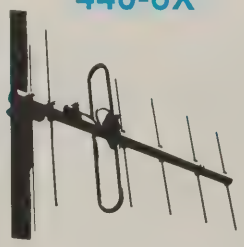
2 METERS

	2M-20 LBX	2M-15X *new for '96*	2M-12X *new for '96*	2M-10 X *new for '96*	2M-7X *new for '96*	2M-4 X
ELECTRICAL:						
BANDWIDTH	SPEC. 144-146 USABLE 143-148 144-15.5 dBd	144-148 MHz	144-148 MHz	144-148 MHz	144-148 MHz	144-148 MHz
GAIN	145-15.5 dBd 146-15.4 dBd 147-15.3 dBd 148-13.7 dB	14.8 dBd	13.4 dBd	12.5 dBd	10.3 dBd	8.5 dBd
VSWR.....Less than	1.5:1	1.5:1	1.5:1	1.5:1	1.5:1	1.5:1
F/B.....Greater than	30 dB	30 dB	25 dB	25 dB	25 dB	20 dB
BEAMWIDTH	E=26°, H=28°	E=26°, H=29°	E=28°, H=33°	E=32°, H=36°	E=46°, H=50°	62°
FEED IMP	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms
BALUN	4:1, 2 kW Coax	4:1, 2 kW Coax	4:1, 2 kW Coax	4:1, 2 kW Coax	4:1 2 kW Coax	4:1, 2 kW Coax
MECHANICAL:						
ELEMENT LENGTH	40 5/8 in.	40 5/8 in.	40 5/8 in.	40 5/8 in.	40 5/8 in.	40 5/8 in.
BOOM LENGTH	38.5 ft.	28 ft.	21 ft.	15 ft.	8 ft. 9 in.	4.2 ft.
TURN RADIUS	21 ft. 10 in.	15 ft. 5 in.	13 ft.	8 ft. 9 in.	5 ft.	4 ft.
WINDLOAD	2.19 sq. ft.	1.75 sq. ft.	1.6 sq. ft.	1.38 sq. ft.	.65 sq. ft.	.25 sq. ft.
WEIGHT	17 lbs.	11 lbs.	9 lbs.	6 lbs.	4 lbs.	2 lbs.
MAST	2 in.	1 1/2 in. or 2 in.	1 1/2 in. or 2 in.	1 1/2 in. or 2 in.	1 1/2 in. or 2 in.	1 1/2 in. max.

440-16X

440-10X

440-6X



1.2-15LBX

1.2-24LBX

440 MHz — 432 MHz — 1296 MHz

	440-16X	440-10X	440-6X	432-30 LBX	432-20 LBX	1.2-44 LBX	1.2-24 LBX	1.2-15 LBX
ELECTRICAL:								
BANDWIDTH	420-450 MHz	420-470 MHz	420-470 MHz	430-440 MHz	425-440 MHz	1260-1300 MHz	1260-1300 MHz	1260-1300 MHz
GAIN	14.0 dBd	11.5 dBd	8.9 dBd	17.3 dBd	15.3 dBd	18.2 dBd	16.2 dBd	13.6 dBd
VSWR.....Less than	1.5:1	1.5:1	1.5:1	1.5:1	1.5:1	1.5:1	1.5:1	1.5:1
F/B.....Greater than	20 dB	20 dB	20 dB	20 dB	20 dB	39 dB	39 dB	39 dB
FEED IMPEDANCE	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms
BALUN	Coax "N" 4:1, 2 kW	Coax "N" 4:1, 2 kW	Coax "N" 4:1 2 kW	1:1 Sleeve, 2 kW	1:1 Sleeve, 2 kW	4:1 Rigid Coax	4:1 Rigid Coax	4:1 Rigid Coax
BEAMWIDTH	E=28°, H=32°	48°	60°			E=16°, H=18°	E=22°, H=24°	E=28°, H=30°
MECHANICAL:								
ELEMENT LENGTH	14 in. max.	14 in. max.	14 in. max.	14 in. max.	14 in. max.	4.5 in.	4.5 in.	4.5 in.
BOOM LENGTH	10 ft. 3 in.	4.75 ft.	28 in.	21 ft. 11 in. (9.6 wavelength)	12 ft. 4 in. (5.42 wavelength)	12 ft. 4 in.	75 3/4 in.	42 in.
TURN RADIUS	6 ft.	4.90 ft.	2 ft. 5 in.	12 ft. 4 in.	7 ft.	84 in.	38 in.	43 in.
WINDLOAD	0.74 sq. ft.	0.53 sq. ft.	0.2 sq. ft.	1.72 sq. ft.	0.9 sq. ft.	1 sq. ft.	1/2 sq. ft.	1/4 sq. ft.
WEIGHT	7.5 lbs.	4 lbs.	1.2 lbs.	9 lbs.	5 lbs.	10 lbs.	7 lbs.	4 lbs.
MAST	1 1/2 in.	1 1/2 in.	1/12 in.	2 1/8 in. max.	1 1/2 in.	2 in. O.D.	up to 2 in. O.D.	up to 2 in O.D.
MOUNT	Center	Rear	Rear	Center	Center	Center	Center	Rear

KLM SATELLITE CIRCULARS - VHF/UHF

ELECTRICAL:	2M-14C	2M-22C	435-18C	435-40CX
BANDWIDTH	144-150 MHz	144-150 MHz	420-450 MHz	420-450 MHz
GAIN	11 dBc	13 dBc	12 dBc	15.2 dBc
VSWR Less than	1.5:1	1.5:1	1.5:1	1.5:1
F/B Greater than	20 dB	20 dB	20 dB	20 dB
FEED IMP	50 Ohms	50 Ohms	50 Ohms	50 Ohms
BEAMWIDTH	38°	34°	34°	25°
ELLIPTICITY	3 dB max	3 dB max	3 dB max	3 dB max
BALUN	(2) 4:1 coax, 2 kW*	(2) 4:1 Coax, 2 kW*	(2) 4:1 Coax, 2 kW*	(2) 4:1 Coax, 2 kW*
MECHANICAL:				
ELEMENT LENGTH	40.625 in. max	40.625 in. max	13.25 in. max	13.625 in. max
BOOM LENGTH	12 ft. 9 in.	19 ft. 1 in.	7 ft. 4 in.	14 ft. 7 in.
TURN RADIUS	7 ft.	11 ft.	7 ft.	8 ft., 9 in.
WINDLOAD	1.25 sq. ft.	1.85 sq. ft.	0.5 sq. ft.	1.16 sq. ft.
WEIGHT	7.5 lbs.	11 lbs.	4.5 lbs.	10 lbs.
MAST	2 in.	2 in.	1.5 in.	1.5 in.
MOUNT	Center	Center	Rear	Center
POLARITY	Circular R.H. and L.H. switchable using CS-3	Circular R.H. and L.H. switchable using CS-2		

*Derate to 250W when using Switchers (supplied)

435-40CX

HF LOG PERIODICS

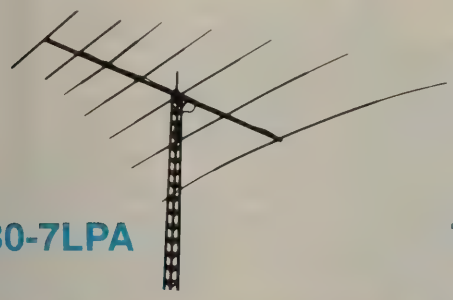
KLM's Log Periodic Antennas offer extended coverage of the amateur bands and intermediate frequencies. The **10-30-7LPA** for example, covers 20, 15, and 10 Meters plus the WARC bands and many MARS frequencies. The addition of the **40M-1** dipole module provides 40 Meter operation as well. This can easily be accomplished using the **SK-8** Conversion Kit. This system is also available complete as the **7.2/10-30-LPA.** All HF Log Periodic Antennas are available with a Heavy Duty Boom at additional cost. Also, 10kW Baluns are available for a nominal charge.

ELECTRICAL:	10-30-7LPA	7.2/10-30LPA	6-30-15LPA
BANDWIDTH	10-30 MHz	7.2/10-30 MHz	6-30 MHz
GAIN	7 dBd typ	3/7 dBd typ	5.5 to 8 dBd
VSWR	1.5:1 typ	1.5:1 typ	2:1 and less, typ
F/B	15 dB	10/15 dB	15 dB typ
FEED IMP	50 Ohms, unbal.	50 Ohms, unbal.	50 Ohms, unbal.
BALUN(S)	4:1, 5 kW	4:1, 5 kW	(3) 4:1, 4 kW PEP
MECHANICAL:			
ELEMENTS	7	8	1.5
ELEMENT LENGTH	43 ft.	46 ft.	48 ft.
BOOM LENGTH	30 ft.	42 ft.	46 ft. (6-12-8)
TURN RADIUS	26 ft.	32 ft.	30 ft. (10-30-7)
WINDLOAD	8.25 sq. ft.	12 sq. ft.	24 sq. ft.
WEIGHT	70 lbs.	100 lbs.	150 lbs. (6-12-80) / 70 lbs. (10-30-7)
MAST	2 in.	2 in.	2 in./3 in.

SK-8 Conversion Kit

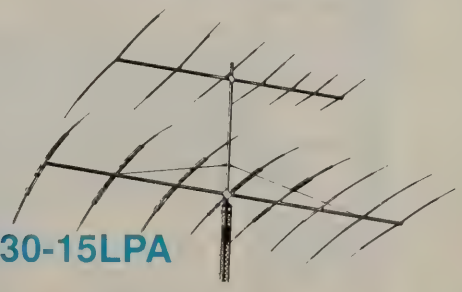
This kit enables you to add 40 Meters to your *KLM* 10-30-7LPA antenna. The SK8 kit includes a boom extension, a beta match for the dipole and all the necessary hardware including a full set of instructions. Purchase a *KLM* 40M Dipole to finish the upgrade.

By upgrading your present 10-30-7LPA to include 40M you will enjoy increased Front-to-Back on 20M and will see Front-to-Back gain on 40M similar to a 2 element beam. You will also enjoy forward gain on 40 Meters through the interaction of the full log array. It's an easy way to upgrade your log.



10-30-7LPA

7.2/10-30LPA



6-30-15LPA

ORDER TOLL FREE: 1-800-558-0411 *Our 40th Anniversary!*

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9:00 AM to 3:00 PM

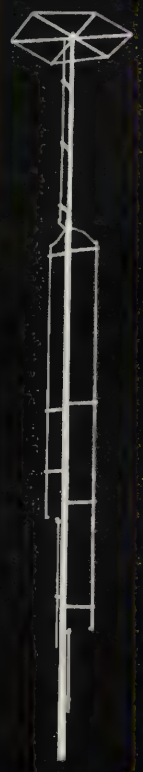
40 YEARS IN AMATEUR RADIO!

GAP: The Perfect Antenna

We at GAP realize there isn't a perfect antenna. No singular antenna will scream DX on 80 and be the best for local nets on 10. If anyone tells you there is, beware! The perfect antenna does not exist, but the right one for you may. If you want something to bust the pile on the low bands, then consider the Voyager. Just starting out in ham radio and need a great general coverage antenna, the Challenger is easy to assemble and for little effort will yield superior performance, especially on DX. Maybe you knowingly or unknowingly moved into one of those "restricted areas" where the Eagle's limited visibility, but unlimited ability is desired.

Eagle DX

Challenger DX



Voyager DX

This chart helps you select the right GAP antenna. When comparing GAPs, bandwidth is not a concern. With few exceptions, a GAP yields continuous coverage under 2:1 for the **ENTIRE BAND**.

All antennas utilize a GAP elevated asymmetric feed. A major benefit is the virtual elimination of the earth loss, so more RF radiates into the air instead of the ground. This feed is why a GAP requires **NO RADIALS**. Just as elevating a GAP offers no significant improvement to its performance, adding radials won't either, making set up a breeze.

A GAP antenna has no traps, coils or transformers. This is important. The greatest sources of failure in multiband antennas are these devices. Perhaps you heard someone discuss a trap that had melted, arced or became full of water. Improvements to these inherent problems are the focus of the antenna manufacturer, while the basic design of the antenna remains unchanged. **GAP improved the trap by eliminating it!** Removing these devices means they don't have to be tuned and, more importantly, won't be detuned by the first ice or rain. The absence of these devices improves antenna reliability, stability and increases bandwidth.

Another major advantage to a GAP antenna is its NO tune feature. Screws are simply inserted into predrilled holes with a supplied nutdriver.

The secret is out and people in the know say:

CQ–"The GAP consistently outperformed base-fed antennas...and was quieter."

73–"This is a real DX antenna, much quieter than other verticals."

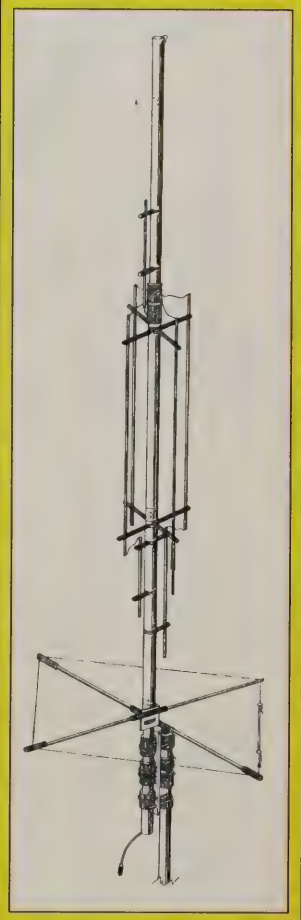
RF–"To say this antenna is effective would be a real understatement. Switching back and forth on 40m between another multiband HF vertical and the GAP, there was no comparison. Signals were always stronger on the GAP, sometimes by S units, not just DB's."

Worldradio – "These guys have solved the problem associated with verticals. That is, an awful lot of RF is wallowing around and dropping into the dirt instead of going outward bound. A half-wave vertical does need radials if it is end fed (at the bottom). But the same half-wave vertical does not (as much, hardly at all) if is fed in the center."

IEEE–"Near field and power density analyses show another advantage of this antenna (asymmetric vertical dipole): it decreases the power density close to the ground, and so avoids power dissipation in the soil below it. The input impedance is very stable and almost independent of ground conductivity. This antenna can operate with high radiation efficiency in the MF AM standard broadcast band, without the classical buried ground plane, so as to yield easier installation and maintenance."

MODEL	BANDS OF OPERATION											HT	WT	MOUNT	COUNTER-POISE	COST
	2m	6m	10m	12m	15m	17m	20m	30m	40m	80m	160m					
Challenger DX	■	■	■	■	■		■		■	■		31.5'	21 lbs	Drop In Ground Mount	3 Wires @ 25'	$259
Eagle DX			■	■	■	■	■		■			21.5'	19 lbs	1-1/4" pipe	80" Rigid	$269
Titan DX Just Released			■	■	■	■	■	■	■	■		25'	25 lbs	1-1/4" pipe	80" Rigid	$289
Voyager DX							■		■	■	■	45'	39 lbs	Hinged Base	3 Wires @ 57'	$399

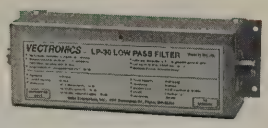
New Release: TITAN DX



This all purpose antenna is designed to operate 10m-80m, WARC bands included. It sits on a 1-1/4" pipe and can be mounted close to the ground or up on a roof. Its bandwidth and no tune feature make it an ideal antenna for the limited space environment as well as a terrific addition to the antenna farm.

VECTRONICS Amateur Radio Products

TVI FILTERS



▶LP-30 Low Pass Filter Suppress TV interference from HF transmitters operating below 30MHz. Use between transmitter and the antenna or tuner to provide up to –70dB attenuation of harmonics that fall within the TV bands. For 52Ω coaxial systems, up to 30MHz, rated 1500W continuous **$59.95**

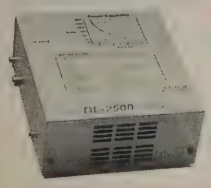
▶LP-2500 Rated for 2500W continuous RF power... **$119.95**

▶HPF-1 High Pass Filter Installs at the TV set antenna terminals to reduce television interference caused by overload and harmonics from HF transmitters operating below 30MHz. High harmonic attenuation with low loss in the 52–550MHz TV passband. Unique shield-breaking circuit prevents antenna cable from acting like an HF antenna. For 300Ω balanced system but supplied with baluns with Type F connectors for 75Ω coax . **$17.95**

DUMMY LOADS

▶DL-300M Dry Dummy load Simulates an accurate 50Ω antenna up to 150 MHz.Test your transmitter without radiating a signal on the air. Power handling curve rated at 300W for 15-seconds, down to 100W for 40 seconds. VSWR <1.3:1 at 150MHz. 5"h x 2"d x 2⅞ "h, 8 oz.....**$39.95**

▶DL-650M Dry Dummy load Good all the way up to 650MHz. Power handling curve is rated at 1500W for 10-seconds, down to 100W for 10-minutes. VSWR <1.3:1 at 500MHz. **$64.95**



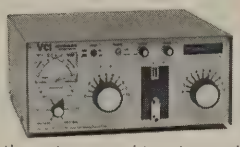
▶DL-2500 High Power Dry load A fan cooled heavy-duty load for up to 150MHz. Power handling curve rated at 2500W for 1-minute, down to 500W for 10 minutes **$169.95**

ANTENNA TUNERS

▶VC-300M Mobile Tuner Compact, lightweight and economical for base or mobile. use. Compatible with almost any antenna, including vertical, dipoles, inverted Vees, beams and mobile whips that are fed by coaxial cable. Also tunes open wire feeders, balanced lines, or single wires. Designed to provide matching from 1.8 to 30 MHz with a 300W continuous RF power handling capability. The dual-movement cross-needle meter simultaneously monitors RF power output and SWR. Compact – 7¼"w x 3½"h x 8¾"d, 2½ lbs..... **$119.95**

▶VC-300DLP Antenna Tuner A quality, economical tuner designed to provide matching from 1.8 to 30 MHz with a 300W continuous RF power capability from 3.5 to 30MHz (150W on 1.8MHz). Built-in dummy load, dual-movement cross-needle peak or average reading meter with light. Compatible with almost any antenna including verticals, dipoles inverted Vees, beams and mobile whips that are fed by coaxial cable, and balanced lines or single wire; a 4:1 balun and six position antenna selector switch are built-in. 10¼"w x 9½"d x 3½"h, 3½ lbs..... **$144.95**

▶VC-300D Antenna Tuner Same function and specs as the VC-300-DLP above, but has the additional capability to show a peak power indication by using an instantaneous responding digital bargraph display. A LEVEL and DELAY control has been added to calibrate the display to the meter, and to vary the delay response **$186.95**



▶HFT-1500 Antenna Tuner Rated for 1500W from 1.8 to 30MHz; 1000W (2KW PEP) on 160 & 10M Cranked continuous roller inductor with a turns counter and vernier tuning on the antenna and input capacitors. Dual-movement cross-needle meter shows average forward and reverse power and SWR; a 21-segment bargraph indicates peak power.A true RF directional coupler sensor is used for the wattmeter. Includes a built-in 4:1 balun for balanced antenna systems and 6 position antenna selector switch. 5½"h x 12½"w x 12"d, 10 lbs... **$389.95**

COMET™ 40 to 2M Mobile Antenna

▶COMET CA-HV Mobile Antenna (left) Designed specifically for use with the new radios that cover HF thru 2M. Choose either 1 or 2 of the following HF coils: 40/(*20)/15/10 meters along with constant operation on 6 & 2M. Unique fold-over hinge brings the antenna down to about 6 inches in height for entering garages, etc. Mounts to most SO-239 type trunk mounts, and is about 6 feet tall with the 40M resonator on the top.

COMET makes several duplexer combinations. The CF-530 to combines both the HF/6 meter and 2 meter radio connectors into a single connector going to the CA-HV. Should you want to use separate HF, 6 Meter and 2 Meter antennas, the COMET CF-360B duplexer will separate the HF/6 meter radio connector back into an SO-239 for HF and SO-239 for 6 meters

- **▶CA-HV Antenna – $129.95** *20M coil opt.
- **▶L-14 14MHz coil.– $36.95**
- **▶CF-530 HF/2M-440MHz Duplexer – $74.95**
- **▶CF-360B HF/6M-440Mhz Duplexer – $69.95**

▶COMET HA-4S HF Mobile Antenna (right) Features switching between 4 HF bands without changing coils or plugs. Standard coils include 40, 15, 12, 10M (20M optional). Compact and lightweight, only 1 lb, 14 oz, and just 4 ft. 10 in. tall which allows for more convenient HF mounting options than conventional HF mobile antennas. Mounts on a trunk-lip style bracket such as the Comet RS-820 (shown), or a rain gutter mount such as the RS-80. High quality construction includes a gold-plated PL-259 at the base, and a threaded collar that unscrews to expose a hinged base, allowing a 90 degree fold-over for garaging..... **$179.95**

▶NCG Power Pocket Portable power for Emergencies, Hamfests, Hiking, etc. A 12V/2A/H sealed lead-acid rechargeable battery provides extended talk time, up to 6 times longer than standard battery packs, and can be recharged to 100% anytime without a memory effect. Compact carrying case with belt loop and shoulder strap, and the entire pack weighs only 30 oz.Your radio plugs into the included female adapter socket. Complete recharge in 6 to 8 hours, with the supplied 110VAC to 12V charger. 3½"w x 1"d x 6½"h, 30 oz.....**$66.95**

NCG Light-weight boom microphone and earpiece with a dual action PTT/STL. Press the button for push-to-talk, or slide the button for slide-to-lock convenience. An alternative to cumbersome headset boom microphones. Good transmit/receive audio.

- **▶MH-900P** Icom, Standard Yaesu and Alinco version ... **$39.95**
- **▶MH-900PK** Kenwood **$39.95**

NCG Light-weight boom microphone/headset for handheld radios. Conveniently folds-up for easy storage. Boom microphone pivots to allow left or right ear speaker position. PTT switch, 36 in. cord.

- **▶MP-28** Icom, Standard Yaesu and Alinco version..... **$39.95**
- **▶MP-28K** Kenwood **$39.95**

RANGER Communications, Inc.

for NOVICE TECHNICIAN + GENERAL ADVANCED EXTRA Class

10 Meter TRANSCEIVERS

Four models provide loads of fun for everyone! Operate local communications as well as frequent Worldwide DX – Base or Mobile!

Participate in Club Events, Nets, Repeaters, Emergency Communications and more!

- ✔ **BAND:** 10 meters only; 28.000 to 29.699 MHz
- ✔ **MODES:** LSB, USB, CW, AM, FM
- ✔ **POWER:** **RCI-2950** 25W SSB – 8W AM, FM & CW
  RCI-2970 100W SSB – 50W AM, FM & CW
  RCI-2980 25W SSB – 50W AM, FM & CW
  RCI-2990 100W SSB – 50W AM, FM & CW

Additional RCI-2950/2970 Features: • Mobile Operation • RIT • Squelch • Noise Blanker • RF Gain Control • RF Power Out Selector • Repeater/Offset Switch • Channel Selector • Scanning • Memory Channel Scan • 4-step LCD Brightness Control • PA Mode • External Speaker Jack • Memory Backup • Multi-function LCD Display • 13.8VDC

- **▶RCI-2950** 2⅜"h x 7⅞"w x 10⅞"d, 4¼ lbs **$259.95**
- **▶RCI-2970** 3¾"h x 7⅞"w x 10⅜"d, 7¼ lbs **$369.95**

Addditional RCI-2980/2990 Features: Both are Base Stations with built-in 120 VAC power supply. They have most of the RCI-2950/2970 features and more!

- **▶RCI-2980** 22"w x 17"h x 11"d, 36 lbs **$419.95**
- **▶RCI-2990** 23"w x 18"w x 11"d, 38 lbs..... **$629.95**

VHF and UHF Fixed Station Vertical Antenna

Model G6-270R Dual-band Base Antenna for 2 Meter and 440 MHz.

Created from the same design as the G7 and G6 series. Rugged and Solid fiberglass construction.
Optimum Gain and Wide Bandwidth. Consists of 5/8 λ over 5/8 λ on 2M and 4 x 5/8 λ on 440 MHz.

- Length: 7ft. 6 in.
- Weight: 5.3 lbs.
- Wind Survival: 100 mph.
- Mounting: 1-1/4" - 1-1/2" mast
- Max Power: 100 watts
- Gain: 6dBd VHF & UHF
- Bandwidth: 1.5:1 SWR
  2 MHz.- 2 Meters
  10 MHz.- 440 MHz.
- Feed: Shunt, DC ground
- Connector: N female

Model G6-440 Omnidirectional Fixed Station

Each is pre-tuned at the factory for easy installation. Enclosed in a lightweight tapered fiberglass radome for low wind resistance. Compact size allows shipment via U.P.S. or Parcel Post.

ELECTRICAL

- Maximum power input: 250 watts
- Gain: 6 dB
- Bandwidth: 8 MHz. under 1.5:1 SWR
- Impedance: 50 ohm nominal
- Lightning protection: direct ground
- Termination: Type N female

MECHANICAL

- Length: 87"
- Weight: 5 lbs.
- Wind survival: 125 mph.
- Mounting: up to 2" mast

G6-144B Two Meter Antenna Omnidirectional Fixed Station

6dB GAIN - compared to 1/2 wave dipole.

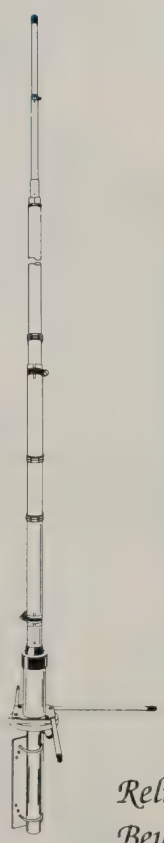
Get the tremendous advantage of 6 dB gain transmitting, 6 dB gain receiving. Whether your application is for individual fixed station or repeater operation the Hustler G6-144B has superior mechanical and electrical design. Optimum gain is achieved with two 5/8 wave-length radiators correctly phased in collinear configuration. Stated gain figure is conservative and maximum signal radiation is at an extremely low angle.

ELECTRICAL

- 6 dB gain over 1/2-wave dipole
- Omnidirectional radiation pattern
- Maximum radiation - extremely low angle
- 50 ohm feed impedance
- Field adjustable: 140-150 MHz.
- SWR at resonance: 1.2:1 at antenna
- Bandwidth : 4 MHz. under 2:1 VSWR
- Shunt-fed with D.C. grounding

MECHANICAL

- Vertical element: 117" long, 1-1/8" telescopic to 3/8"
- Constructed of high strength aluminum
- Connector: SO-239
- Wind load: 26 lbs. @ 100 mph.
- Completely self-supporting
- Mounting: Vertical support up to 1-3/4"
- Shipping wt: 6.8 lbs.



G7-144 Two Meter Antenna Omnidirectional Fixed Station

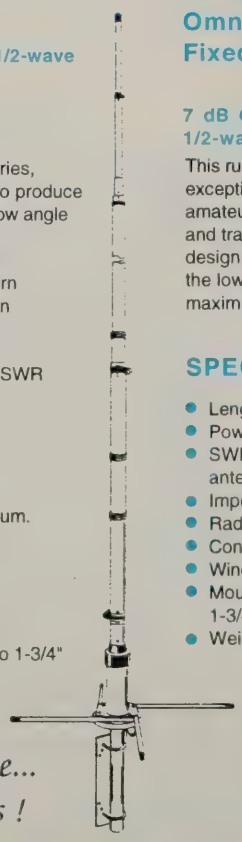
7 dB GAIN - compared to 1/2-wave dipole.

ELECTRICAL

- Radiator: Collinear shunt-fed. Triple 5/8-wave elements in series, seperated by 2 phasing coils to produce maximum gain and extremely low angle of radiation.
- 7 dB gain over 1/2-wave dipole
- Omnidirectional radiation pattern
- Extremely low angle of radiation
- Tuning range: 144-148 MHz.
- VSWR: 1.2:1 at resonance
- Bandwidth: 4 MHz. under 2:1 VSWR
- Power: 600 watts
- 50 ohm feed inpedance
- Shunt fed with DC grounding

MECHANICAL

- High strength fiberglass and alum.
- Completely self-supporting
- Length: 184"
- Radials: (4) 20-1/4" x 3/8" O.D.
- Connector: N-type
- Wind load: 26 lbs. @ 100mph.
- Mounting: Vertical support up to 1-3/4"
- Weight: 10 lbs.



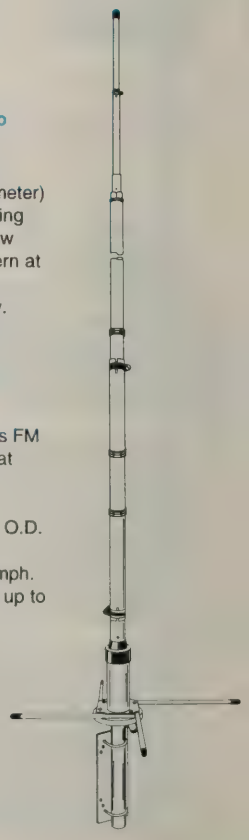
G7-220 Omnidirectional Fixed Station

7 dB GAIN - compared to 1/2-wave dipole.

This rugged antenna means exceptional 220 MHz (1-1/4 meter) amateur performance, receiving and transmitting. A unique new design keeps the signal pattern at the lowest possible angle of maximum radiation efficiency.

SPECIFICATIONS

- Length: 122" long
- Power capability: 600 watts FM
- SWR at resonance: 1.2:1 at antenna
- Impedance: 50 ohms
- Radials: (4) 14-3/4 x 3/16" O.D.
- Connector: Type N
- Wind load: 26 lbs. @ 100 mph.
- Mounting: vertical support up to 1-3/4" O.D.
- Weight: 7 lbs.



Reliability & Performance...
Beyond your Expectations !

VHF and UHF Mobile Antennas

FX Series

- 3.4 dB gain; 5/8 λ, 200 watt rating
- 15 feet of coax with PL-259 connector
- Magnetic mount holds to 100 mph.

Model FX-2
2 meter, black and chrome
Model FX-220
220 MHz., black and chrome
Model FX-2B
2 meter, all black
Model FX-220B
220 MHz. all black

RX Series

- 3.4 dB Gain; 5/8 λ, 100 watt rating
- 15 foot of coax with PL-259 connector
- Magnetic mount holds to 75 mph.

Model RX-2
2 meter, black and chrome
Model RX-220
220 MHz. black and chrome

Model BBLT-144A

3.4 dB Gain Trunk-Lip Mount Antenna

- Adjustable 143-149 MHz.
- SWR: 1.1:1 at resonance
- Power rating: 200 watts FM
- Shunt-fed • Reduced static
- Length: 4'4" inc. mt. • Spring and 180° swivel ball for vertical positioning • 17' coax with connector • No drilling required

Model BBL-144A

3.4 dB Gain Roof Mount Antenna
Same as **BBLT-144A** but mounts in 3/4" hole on a flat surface. 17' coax with connectors.

Model SF-220

Low Cost 3.4 dB Gain 220 MHz 5/8 λ for 3/8" x 24 thread mounts

- 1.2:1 SWR at resonance • Power rating: 100 watts FM • Tapered stainless steel radiator • Length: 2'7"

Model SF-2

Low Cost 3.4 dB Gain
2 meter 5/8 λ for 3/8" x 24 thread mounts

- 1.2:1 SWR at resonance
- Power rating: 100 watts FM
- Tapered stainless radiator
- Length: 4'

Model RX-440

UHF Magnetic Mount

- 5/8 λ over 1/4 λ design
- 5 dB gain
- Speed rated to 75 mph.
- Includes 12' coax

Collinear

Model CGT-220

5.2 dB Gain 5/8 λ Over 1/4 λ Collinear Trunk-Lip Mount Antenna

- 1.1:1 SWR (typical) at resonance • 4 MHz. bandwidth under 1.5:1 SWR • Power rating: 200 watts FM • Heigth: 4' 9" including mount
- Spin knob to remove antenna
- 17' of low loss coax with connector

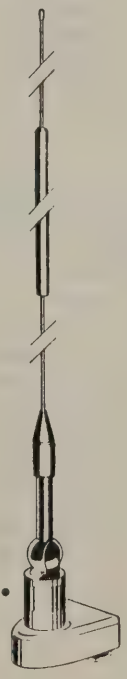
Model CG-220

Has identical electrical characteristics as **CGT-220** but with 3/8 x 24 threaded base for use with standard ball mounts or other 3/8" x 24 Hustler mounts.

Model CGT-144

5.2 dB Gain, 5/8 λ Over 1/4 λ Collinear Trunk-Lip Mount Antenna

- 6 MHz bandwidth • 1.5:1 SWR • Power rating: 200 watts FM • Length: 7' 1" including mount • 180° swivel ball for vertical positioning • 17' coax with connector • No drilling required



Model CG-144

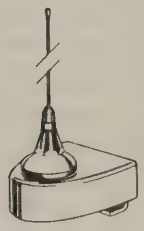
Same as CGT-144 but has 3/8" x 24 threaded base for use with standard ball mounts or other 3/8" x 24 Hustler mounts.

Reliability & Performance...
Beyond your Expectations !

Unity Gain

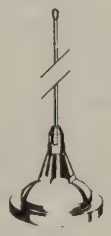
Model THF

VHF/UHF Trunk-Lip Mount Antenna
Tunable 17-7 PH stainless steel radiator is cut to 1/4 wavelength for low SWR and unity gain from 140 to 500 MHz. Trim chart included. Easy to install trunk-lip mount attaches to rear or side of trunk lid without drilling. Supplied ready for operation with 17' of coax with connectors installed.



Model UGM

VHF/UHF Magnetic Mount Antenna
Extend range of handheld or portable radios. Trimmable 17-7 PH stainless steel radiator is cut to 1/4 wavelength for low SWR and unity gain from 140 to 500 MHz. Trim chart included. Highly efficient mylar-protected magnetic mount attaches conveniently to magnetic compatible surfaces. No drilling! Supplied ready for operation with 7' of mini-coax with BNC connector.



Model UHT-1

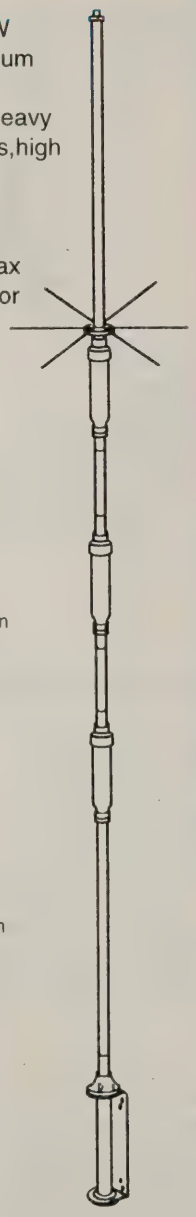
VHF/UHF Roof/Deck Mount Antenna
Low profile mount designed for easy installation in a 3/4" hole on any flat surface or on roof without pulling headliner. Unity gain, 1/4-wave performance. Tunable 17-7 PH stainless steel radiator permits operation on any frequency from 140 to 500 MHz. Trim chart, 15' of coax and connector are included.

Model MKR-2 Radial Kit

Contains three decoupling radials and mount to convert series-fed mobile VHF antennas to fixed operation. Performance is comparable to many regular base antennas. Suitable for permanent installations or portable use. Heavy-duty zinc plated mast bracket and hardware. Accepts antennas with standard 3/8 x 24 threaded base.

Fixed Station Multi-Band HF Vertical Antennas

- Broadbanded - low VSWR at band edges
- Power capability - full legal limit on SSB or CW
- Solid one-inch fiberglass trap forms for optimum electrical and mechanical stability
- Heavy wall, high strength aluminum tubing, heavy duty aluminum mounting bracket and low loss,high strength insulators
- Stainless steel clamps and hardware
- Easy assembly and tuning
- Single line feed with any length of 50 ohm coax
- Use as ground mount with or without radials, or elevated mount with radials



Model 6-BTV

Bands — 10-15-20-30-40 & 75 or 80 meters
Length/weight — 24'/16.5 lbs.
Mounting — Vertical support up to 1-3/4" O.D.
Wind load — 29 lbs. @ 70 mph.
Power capability — Full legal limit SSB/CW
VSWR at resonance — 1.15 to 1 or better
Bandwidth — VSWR 2:1 or better at band edges on 10-40 meters (100 KHz. on 75 or 80 meters)

Model 5-BTV

Bands — 10-15-20-40 & 75 or 80 meters
Length/weight — 25'1" /17 lbs.
Mounting — Vertical support up to 1-3/4 O.D.
Wind load — 29 ibs. @ 70 mph.
Power capability — Full legal limit SSB/CW
VSWR at resonance — 1.15 to 1 or better
Bandwidth — VSWR 2:1 or better at band edges on 10-40 meters (100 KHz. on 75 or 80 Meters)

Model 4-BTV

Bands — 10-15-20-40 meters
Length/weight — 21'5"/15 lbs.
Mounting — Vertical support up to 1-3/4" O.D.
Power capability — Full legal limit SSB/CW
VSWR at resonance — 1.15 to 1 or better
Bandwidth — VSWR 1.6:1 at band edges

30 Meter Add-on Kit for 4-BTV and 5-BTV

Model 30-MTK
Full 30 meter band coverage
Will not affect normal operation
Easy installation
All hardware included
Weight: 5 lbs.

Hustler Resonators

Standard Resonators

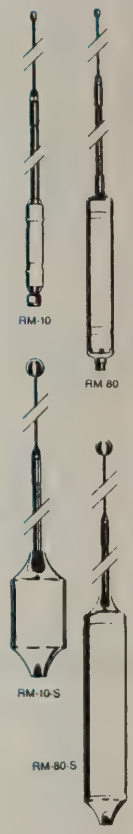
Power rating - 400 watts SSB

Part	Description	Approx. Bandwidth 2:1 SWR or Better
RM-10	10 METER	150-250 KHz.
RM-11	11 METER	150-250 KHz.
RM-12	12 METER	90-120 KHz.
RM-15	15 METER	100-150 KHz.
RM-17	17 METER	150 KHz.
RM-20	20 METER	80-100 KHz.
RM-30	30 METER	50-60 KHz.
RM-40	40 METER	40-50 KHz.
RM-75	75 METER	25-30 KHz.
RM -80	80 METER	25-30 KHz.

Super Resonators

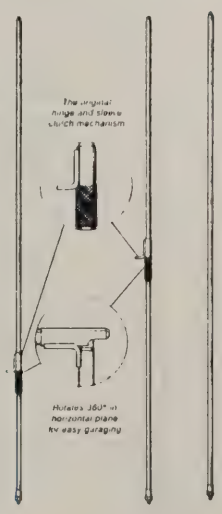
Power rating - full legal limit. Super Resonators also offer wider bandwidth, especially on 40, 75 and 80 meters.

Part	Description	Approx. Bandwidth 2:1 SWR or Better
RM-10-S	10 METER	250-400 KHz.
RM-11-S	11 METER	250-400 KHz.
RM-15-S	15 METER	150-200 KHz.
RM-20-S	20 METER	100-150 KHz.
RM-40-S	40 METER	50-80 KHz.
RM-75-S	75 METER	50-60 KHz.
RM- 80-S	80 METER	50-60 KHz.



Mobile HF Antennas

Hustler Masts



MO-1 Mobile mast, 54" high, for deck or fender mounting-folds over 15" above base.

MO-2 Mobile mast, 54" high, for bumper mounting - folds over 27" above base.

MO-3 Mobile mast, 54" high, solid - does not fold over.

MO-4 HF Mobile Mast
- For use with Hustler HF resonators
- Only 22" long
- Suitable for trunk or deck mounting
- Includes 3 new tip rods

MO-4

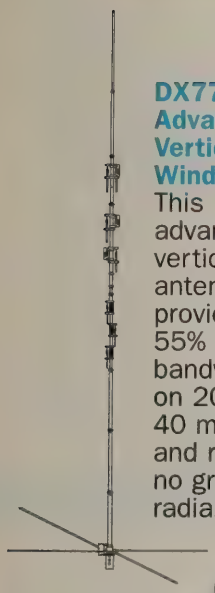
Reliability & Performance... Beyond Your Expectations!

PROFESSIONAL STANDARDS ASSURE AMATEUR SATISFACTION

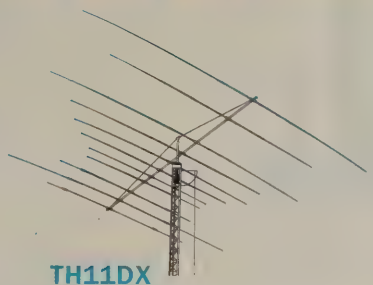
Innovation • Value • Customer Service

From the world's leading antennas and rotators to warranties, after-sale support and responsive, knowledgeable customer service, Hy-Gain by Telex is the amateur's preferred choice for exceptional performance and extraordinary reliability.

Highlighted here is just a sampling of innovative products available from Hy-Gain. While examining this catalog, keep your eyes peeled for detailed information about many more Hy-Gain products and accessories.

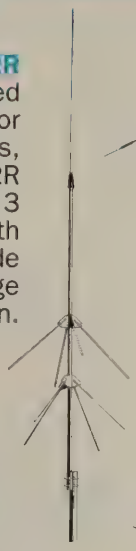


DX77 Advanced Vertical Windom
This advanced vertical antenna provides 55% greater bandwidth on 20 and 40 meters, and requires no ground radials.



TH11DX
This uniquely designed antenna provides the frequency coverage of a log periodic, **plus** the performance of a monobander.

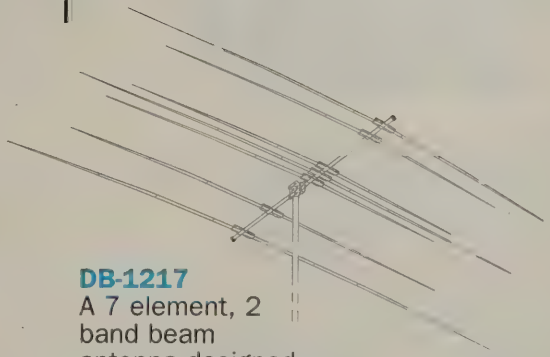
V2R
A rugged antenna for 2 meters, the V2R delivers 3 dBd gain with a wide coverage pattern.



TH3 Mk4
A classic tribander, the TH3 Mk4 is an ideal choice for home stations and DXpeditions.

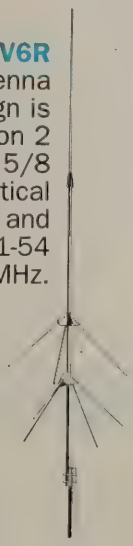
DX88
If you want 80 meters in a vertical, this is your antenna. Better bandwidth than found in add-on kits.

Ham V with DCU-1 Digital Control System
The Ham V is designed for medium communications antenna arrays of up to 15 sq. ft. (1.4 m2) wind load area. The **DCU-1** features digital and analog displays with six presets, automatic brake delay, motor slow down, automatic calibration and programmable center of rotation.

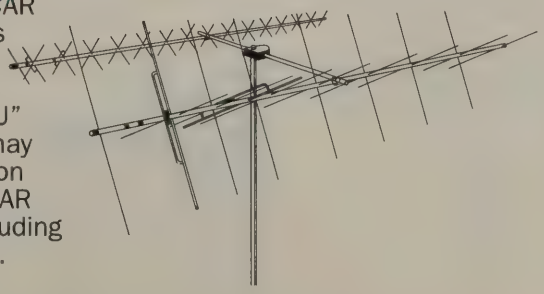


DB-1217
A 7 element, 2 band beam antenna designed for operation on the 12 and 17 meter amateur bands, and packaged for DXpeditions.

V6R
This antenna design is based on 2 collinear 5/8 wave vertical radiators and covers 51-54 MHz.



OSCAR LINK
Hy-Gain's OSCAR LINK antennas are ready for Phase 3D on the "V" and "U" bands. They may also be used on the other OSCAR satellites, including the new JAS-2.

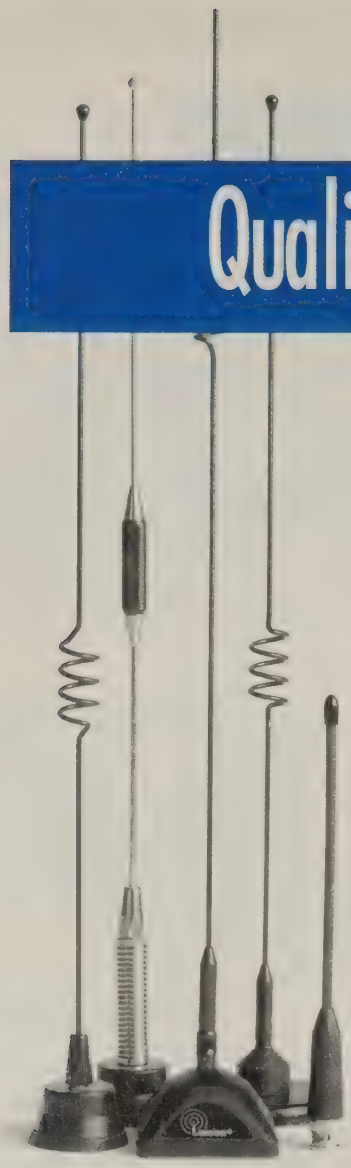


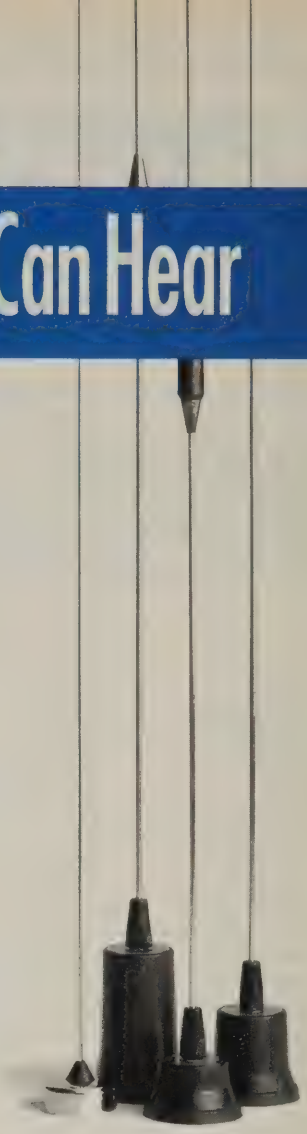
hy-gain® by Telex

Your Performance Advantage

Telex Communications,® Inc.
8601 East Cornhusker Highway
Lincoln, NE 68505 USA
Phone: 402-467-5321 • FAX: 402-467-3279
E-mail: hygain@telex.com
Web: http://ourworld.compuserve.com/homepages/hygain

Quality Performance... You Can Hear





Simultaneous VHF and UHF Communication Over Wide Bandwidths

Larsen's Dual Band Series

Larsen dual band antennas provide excellent performance for simultaneous use of VHF and UHF amateur frequencies. Each Larsen dual band antenna is factory preset to guarantee optimum performance with no tuning required.

	NMO 2/70 SH	MM 2/70	NMOQ 2/70 B	KD3 2/70
Freq.	144-148/440-450 MHz	144-148/440-450 MHz	144-148/440-450 MHz	144-148/442-448 MHz
Gain	Unity	Unity	Unity	Unity
Power	100 Watts	100 Watts	100 Watts	25 Watts
Type	VHF: Center Loaded 1/4 λ UHF: Center Loaded 3/4 λ	VHF: Center Loaded 1/4 λ UHF: Center Loaded 3/4 λ	VHF: Center Loaded 1/4 λ UHF: Center Loaded 3/4 λ	VHF: Loaded 1/4 λ UHF: 1/4 λ
Base	NMO UHF BASE B w/ spr	3" Round mag. mount	NMO UHF BASE B	TNC
Height	17"	17"	18"	8"
Whip	W NMO 2/70 SH	W NMOQ 2/70 B	W NMOQ 2/70 B	N/A

λ = wave length

	KD4 2/70	NMO 2/70 C	NMO 2/70 B	KG 2/70 UD PL
Freq.	144-148/442-448 MHz	144-148/440-450 MHz	144-148/440-450 MHz	144-148/442-448 MHz
Gain	Unity	2.4/4 dBd	2.4/4 dBd	2.4/4.5 dBd*
Power	25 Watts	100 Watts	100 Watts	50 Watts
Type	VHF: Loaded 1/4 λ UHF: 1/4 λ	VHF: 5/8 Wave UHF: Collinear	VHF: 5/8 Wave UHF: Collinear	VHF: 1/2 λ UHF: Collinear
Base	BNC	NMO 2/70 BCO	NMO 2/70 BCO	KG 2/70 O/S
Height	8"	36.75"	33.5"	32.5"
Whip	N/A	W 2/70	W 2/70 B	W KG 2/70

λ = wave length *Ground plane required for gain.

Low Impedance Design Creates A Premium On-Glass Antenna

Larsen's Kūlglass™ Series

Larsen's Kūlglass (KG) series uses a patented low impedance design and advanced materials to produce the world's best on-glass antenna. Our KG series uses advanced resin polymer plastic to completely enclose the circuit board or loading coil for mechanical durability and weather resistance. 3M's best adhesive tape, plus Larsen's unique bonding enhancer, ensure the best possible grip to the glass.

	KG 144 UD PL	KG 220 UD PL	KG 440 UD PL
Freq.	144-160 MHz	220-225 MHz	440-460 MHz
Gain	2.4 dBd	2.4 dBd	2.4 dBd
Power	100 Watts	100 Watts	100 Watts
Connector	PL 259 (Loose)	PL 259 (Loose)	PL 259 (Loose)
Type	1/2 λ	1/2λ	1/2 λ
Base	KG 144 O/S	KG 220 O/S	KG 440 O/S
Height	48"	26.5"	15"
Whip	W KG 144	W KG 220	W KG 440

λ = wave length

Outstanding Transmit Range and Durable Construction

Larsen's Kūlduckie™ Portable Series

Superior transmit range and tough mechanical durability are the hallmark of Larsen portables. All of our center cores are made of brass or copper plated steel to maximize RF emission. Fully soldered connections and silver plated components improve electrical efficiency. Our double spring BNCs also reduce wear on your radio mount. Other mounting styles available.

	KD4 146	KD4 146 HQ (2m)	KD14 2M HW
Freq.	144-148 MHz	144-148 MHz	144-148 MHz
Gain	Unity	Unity	Unity
Power	25 Watts	25 Watts	25 Watts
Type	1/4 λ, Helical	1/4 λ, Helical	1/2 λ, Telescoping
Base	BNC	BNC	BNC
Height	8"	10.5"	8.5" to 42"
Whip	N/A	N/A	W KD14 2M HW

λ = wave length

Proven Superior Performance and Rugged Dependability

NMO Mobile Antennas

Larsen's own version of the standard 3/4" Motorola TAD/TAE type mount uses advanced design, materials, and construction to provide a premium mount. For demanding outdoor applications, the chemical resistant NMO series is housed in a resin polymer plastic shell which is completely molded around the nickel plated brass whip stud to eliminate moisture damage. Our superseal gasket also greatly reduces water intrusion under the base.

	NMO 27 C	NMO 150 C	NMOQ SPEC	NMO 220 C	NMO 440 C
Freq.	27-31 MHz	144-174 MHz	136-512 MHz	220-225 MHz	440-460 MHz
Gain	Unity	3 dBd	Unity	Unity	4.5 dBd
Power	200 Watts	200 Watts	200 Watts	200 Watts	200 Watts
Type	Loaded 1/4 λ	5/8 λ	1/4 λ	5/8 λ	5/8 over 1/2 λ
Base	NMO 27 BCO	NMO 150 BCO	N/A	NMO 220 BCO	NMO UHF BASE B
Height	53"	51.75"	21"	34.5"	33"
Whip	W 490	W 490	N/A	W 400	W 154

λ = wave length

Larsen®

Larsen Electronics, Inc.
3611 NE 112th Avenue, Vancouver, WA 98682
360 944-7551, Fax: 360 944-7556

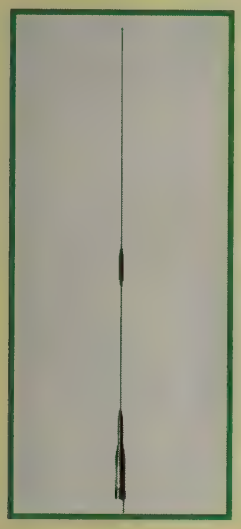
Canadian Larsen Electronics, Ltd.
5049 Still Creek Ave., Burnaby, BC V5C 5V1
604 299-8517, Fax: 604 299-4191

Maldol THE INNOVATIVE ANTENNA COMPANY

PERFORMANCE PLUS!

THE ARD & EX SERIES OF DUAL BAND MOBILE ANTENNAS

Meet the hottest new line of dual band mobile antennas on the road today. Maldol's ARD & EX series. They are world famous for style and performance and extend the range of any mobile rig, new or old. ARDs and EXs are pretuned, broadbanded, weatherproof and available in black or chrome finish and truly make the going first class!



MODEL	LENGTH	GAIN (DBD)	POWER	
DUAL BAND (144/430MHz)				
ARD5B	19.3"	— / 3.8	120W	BLACK ONLY
ARD6/6B	26.5"	2.6 / 4.9	120W	
ARD 10/10B	34.4"	3.0 / 5.5	120W	
ARD 12/12B	48.2"	4.3 / 6.8	150w	
ARD 16/16B	64.8"	5.0 / 7.7	150w	
EX110/110B	37.3"	3.0 / 5.5	50W	
EX111/111B	43.8"	3.5 / 6.0	50W	
FA50	19.0"	2.1 / 3.2	50W	MINI MAG MOUNT - 10' CABLE
MONOBAND				
ARS50 (50MHz)	60.4"	1/4 WAVE	100W	6 METERS - CHROME ONLY
ARS 144/144B (144MHz)	55.3"	4.1150	150W	2 METERS
ARS 430/430B (430MHz)	37.9"	5.5150	150W	70 CM

See MALDOL in the Price List

THE WORLD CLASS IN HT ANTENNAS

Acknowledged as the world standard for quality and performance, The Maldol line of HT Antennas continues to outperform the competition in all categories from its "soft" rubber duck dual band to the gain antennas that improve any HT.

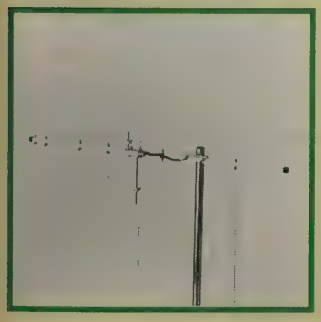
AH209S (144/430MHz)	SOFT DUCK	DUAL BAND
HS702S (144/430MHz)	17.6"	- / 3.2 dB Gain
FR30/30H (144/430MHz)	6 -0 15" TELESCOPE	- / 2.1 DB Gain

NOTHING ELSE LIKE IT!

MK-30 MOTORIZED TILT-OVER MOBILE MOUNT

The mobileer's dream! Ideal mate for ARDs and EXs but also works great for other antennas up to 65" long. Neat motorized unit quick-installs on trunk lid, roof gutter or roof rack. Remote up/down switch fits under dash. Permits one touch tilting for low overhangs and garages. T/ Trunk, H/ Hatchback, R/ Roof Gutter or K/ Roof Rack.

MK30 POWER MOUNT - Handles antennas up to 65" long and 1lb
RG4M - Matching Cable & Connector set for all mobile antennas

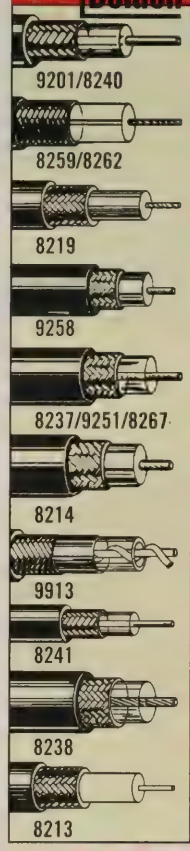


FOX 727 DUAL BAND PORTABLE/BASE YAGI

Recognized as the standard in lightweight, high quality VHF/UHF Beams, Maldol is pleased to offer the only portable dual band yagi covering VHF & UHF. The construction is all stainless hardware with lightweight aluminum boom. The unit comes in its own carrying pouch for easy transport. Covers both 144 and 430MHz bands and handlew 100 watts, this unit will handle all your needs at home or in the field.

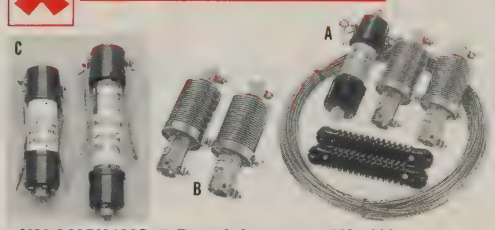
HSFOX727 (144/430MHZ) Dual Band Portable Yagi – Gain: 9.5/11.5 dBi

Belden — Coaxial Cable — *See Price List under Belden*



Belden number	RG-type	Dia. (in.)	Center conductor	Insulation type	Shield coverage	Jacket type	Imp. (Ω)	Vel. factor	Loss/100' 100 MHz
9201	58/U	.193	#20 solid copper	Solid polyethylene	78% bare copper	PVC	53	66%	4.5 dB
8240	58/U	.193	#20 solid tinned cop.	Solid polyethylene	95% tinned copper	PVC	53.5	66%	4.5 dB
8259	58A/U	.193	#20 stranded tinned cop.	Solid polyethylene	96% tinned copper	PVC	50	66%	4.9 dB
8219	58C/U	.193	#20 stranded tinned cop.	Cellular polyethylene	96% tinned copper	PVC	50	78%	4.5 dB
8262	58/CU	.193	#20 stranded tinned cop.	Solid polyethylene	95% tinned copper	Non-contam. PVC	50	66%	4.9 dB
9258	8/X	.242	#16 stranded copper	Cellular polyethylene	95% bare copper	PVC	50	78%	3.7 dB
8237	8/U	.405	#13 stranded copper	Solid polyethylene	97% bare copper	PVC	52	66%	2.2 dB
8214	8/U	.405	#11 stranded copper	Cellular polyethylene	97% bare copper	PVC	50	78%	1.8 dB
9913	8/U	.405	#9½ solid copper	Semi-solid polyethylene	100% foil + 88% braid	PVC	50	84%	1.4 dB
9251	8A/U	.405	#13 stranded copper	Solid polyethylene	97% bare copper	Non-contam. PVC	52	66%	2.2 dB
8267	213/U	.405	#13 stranded copper	Solid polyethylene	97% bare copper	Non-contam. PVC	50	66%	2.2 dB
8241	59/U	.240	#22 solid copper	Solid polyethylene	95% bare copper	PVC	73	66%	3.4 dB
8238	11/U	.405	#18 stranded tinned cop.	Solid polyethylene	97% bare copper	PVC	75	66%	2.0 dB
8213	11/U	.405	#14 solid copper	Cellular polyethylene	95% bare copper	PVC	75	78%	1.5 dB

UNADILLA W2AU



▶W2AU/W2VS 5-Band Antenna Kit (A)
Low SWR on 80 and 40 meters, resonant on 10, 15 and 20 meters. Includes 40 meter traps, W2AU 1:1 balun, end insulators, 120 ft. of #14 stranded copper wire, and assembly instructions. Approximately 110 ft. long, rated 2KW PEP **$85.00**

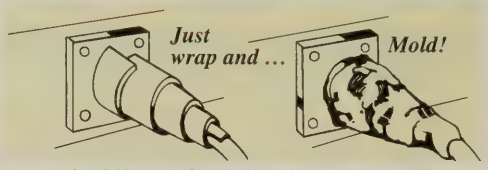
▶REYCO W2VS Antenna Traps (B)
Add these traps to your dipole for multiband operation on two to six bands. *For example:* add the 40 meter pair (KW-40) and get 40 and 80 meter operation. For 10, 15, 20 ,40, 80 and 160 meters, add all five pairs – 33 combinations!

Selecting Traps:
List the bands you want to cover, listing the highest frequency band first. You will need a pair of traps for each band except the one with the lowest frequency.. **See Price List**

▶W2AU Ferrite Baluns (C)
Provides a smooth transition from unbalanced coaxial transmission line to balanced antennas – dipoles, quads, yagis. Produces proper current distribution resulting in reduced feedline radiation for maximum power transfer, gain and reduced possibility of TVI and BCI. Replaces center insulator, DC grounded for lighting protection, has convenient center eye hook for support. Usable from 1.8 to 40MHz and rated at 2KW PEP. Available in **1:1** or **4:1** ratios, or beam balun .... ea. **$24.00**

▶W2DU Non-Transformer Choke Baluns
High efficiency, 1:1 ratio. The HF model is the only one available that works on 160 meters! Handles VSWR up to 5:1 at legal limit, allowing use with antenna tuners. The VHF model eliminates the usual rod and tube hardware balun assembly normally used at those frequencies. Models: **HF** (1.8-30MHz), **VHF** (30-250MHz), **Beam** Balun (40–10 meters) ..... ea. **$26.00**

COAX-SEAL — Hand Moldable Plastic for Antenna Component Protection



Coax Seal quickly and effectively seals all types of coaxial fittings; baluns; antenna parts and connectors of all shapes – adheres tightly to vinyl and poly vinyl coax outer jackets. Simply wrap it on like you would regular tape, then mold it to any shape. It stays flexible and sealed at any temperature for years to resist moisture penetration and deterioration. Its permanent flexibility makes it possible to remove and re-install fittings, then re-seal by simply re-forming the same material. Non-toxic, non-contaminating . Roll, 1/2" wide x 60" **UNV 104**..... **$2.69**

STUF Dielectric Waterproofing Filler for Coaxial Connectors

Waterproofs from the inside–out!

CRS STUF
$4.50
per tube

- High purity macroscopic foam, dielectrically simulates the coaxial cable core.
- No additional connector loss.
- Contains no silicones, etc. to harm coaxial cable material.
- Just fill connector and tighten. The filler hydraulically channels into all connector voids and ports where moisture can infiltrate, and seals.
- Non-hardening, easy removal.
- About 4.5¢ per connection.

penetrox® Electrical Joint Compound

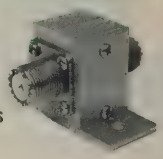
A special anti-seizing compound for all bare aluminum to aluminum and aluminum to copper connections, and also as a thread lubricant. Apply to mating pieces of antenna components, tubing, etc. before assembly to provide a non-corrosive, low resistance, airtight seal. Makes disassembly of tubing and bolts at later date a breeze 4 oz bottle **$7.95**

PolyPhaser® CORPORATION — *Lightning Protection*

PolyPhaser's Impulse Suppressors feature a hermetically sealed voltage sensitive gas tube. Additional components and unique design provide NO DC CONTINUITY with low loss to assure that surge voltages and currents that form differentially on the coaxial cable are prevented from being shared by your valuable equipment.

BROADBAND COAXIAL PROTECTORS

- Multi-strike capability with low strike throughput energy
- Aluminum enclosure.
- VSWR: ≤1.1 over its frequency range



FLANGE MOUNT (right)

▶IS-50UX-C0 Frequency Range: 1.5MHz to 400MHz. Maximum Power: HF 2kW, VHF 375W, UHF 125W **$56.95**

▶IS-50UX-C1 Frequency Range: 50MHz to 700MHz. Maximum Power: VHF 375W, UHF 125W..... **$56.95**

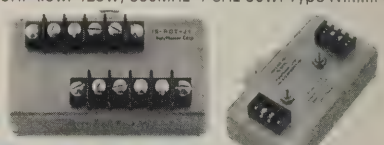
▶IS-50NX-C2 Range: 125MHz to 1000MHz. Max.Power: VHF 375W, UHF (low) 125W, 800MHz -1 GHz 50W. Type N **$56.95**

BULKHEAD MOUNT (left)

▶IS-B50LU-C0 Frequency Range: 1.5MHz to 400MHz. Maximum Power: HF 2kW, VHF 375W, UHF 125W **$59.95**

▶IS-B50LU-C1 Frequency Range: 50MHz to 700MHz. Maximum Power: VHF 375W, UHF 125W **$59.95**

▶IS-B50LN-C2 Range: 125MHz - 1000MHz. Max. Power: VHF 375W, UHF (low) 125W, 800MHz-1 GHz 50W. Type N..... **$59.95**



ROTOR CONTROL PROTECTOR

▶IS-RCT (left) Provides protection for rotor controllers, motors, control box and other nearby equipment. EMP rated–faster than other gas tubes with lower turn-on voltage. Water tight enclosure with mounting stud. 7½"h x 3¼"w x 2½"d **$54.95**

IN-LINE PHONE LINE PROTECTOR (right)

▶IS-SPTL Multi-stage protection, with large bandwidth and fast response time, EMP rated. For telephone trunk lines - handles standard ring voltages to 105Vrms. Handles surges up to 36 or 40kA without damaging let through voltages. Shielded metal enclosure. 1¾"h x 4½"w x 3¼"d **$57.95**

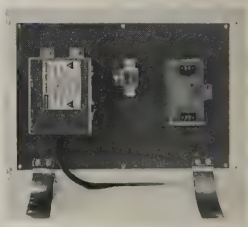
POWER LINE EXTENSION PROTECTOR

In-line, multi-stage EMP rated protectors provide multi-strike power line protection, filtering and proper grounding when equipment use requires an extension cord. Two outlets, master on/off switch, circuit breaker for added protection. All aluminum grounded enclosure, 4¾ "wide. 120V AC.

▶IS-PLDO-120-15A with 15' cord, 120VAC @ 15A **$172.95**

▶IS-PLDO-120-20A with 6' cord, 120V AC @ 20A **$215.95**

COPPER GROUNDING PANEL



▶CU-SPGP A .062" thick copper plate mounted on a painted 1/2" plywood backing. Used to mount and ground protectors and to establish a single point location for grounding equipment racks and chassis. comes with concrete anchors, mounting screws, 10 ft. of 1½" copper grounding strap, 2 brass sandwich plates and joint compound. 18"w x 12"h, 16" center mount. ...**$63.95**

LOW INDUCTANCE COPPER INTERCONNECT STRAP

Copper strap has an advantage over wire when used for a ground path because it has lower inductance and cannot be fused open by lightning. For example: 1½" strap has a lower inductance than #2.0 stranded wire. It's easy to cut, solder, etc. Usable above or in-ground applications, #6 AWG thickness (0.159"). Available in 1½, 3 and 6 inch widths and 25, 50, 75 or 100 ft. rolls ..... **See Polyphaser in the Price List**

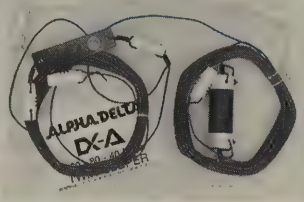
ALPHA DELTA COMMUNICATIONS, INC.

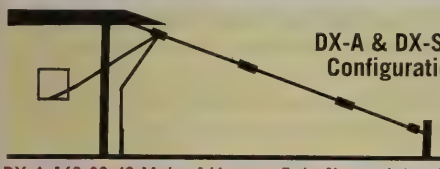
Solving your Antenna and Lightning Problems!

Limited Space High Performance Antennas

STAINLESS STEEL HARDWARE • FULLY ASSEMBLED • SEVERE WEATHER RATED COMPONENTS • NO-TRAP DESIGN

Unlike the usual trap antenna, there are no capacitors to break down under high RF voltages. *"ISO-RES"* inductors and 12 ga. insulated solid copper wire tolerate full-legal power. 50 ohm direct coax feed; a tuner usually not required when operating in the resonant bands but may be used for multi-band work if desired.



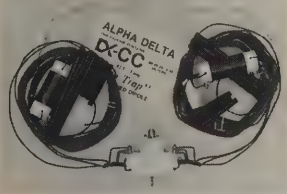


DX-A & DX-SWL Configuration

DX-A 160-80-40 Meter 1/4-wave Twin Sloper A top low frequency DX antenna. Combines the tremendous DX firepower of the 1/4-wave sloper with the wide bandwidth of the 1/2-wave dipole. One leg is 67 ft., the other 55 ft. Installs like an Inverted-V with ground return thru tower or down-lead **$59.95**

DX-B 1/4-wave DX sloper Single wire, high performance on 160, 80, 40, and 30 meters. Designed for limited space installations where room doesn't allow for the DX-A twin sloper. Requires only 60 ft. overall and provides amazing DX performance at installation heights of only 35 ft., and with the low end at only 8 ft. It's pre-assembled and pre-tuned. Just put it up and start enjoying low band operation. Utilizes stainless-steel hardware, 12 gauge solid copper wire and efficient Alpha Delta "Iso-Res" RF choke coils. To gain the same broadbanded performance like the DX-A, the DX-B is also designed to be used with a wide range antenna tuner, so no trimming or tweaking is necessary. 50 Ω coax feed, rated for full legal power.... **$69.95**

DX-SWL SWL Broadcast Sloper Covers 13, 16, 18, 19, 21, 25, 31, 41, 49, 60, 90, and 120M short-wave plus AM broadcast bands. Sloper design provides outstanding reception of low-angle DX signals. Multi-band 2KW transmit capability with an appropriate antenna tuner. Overall length is 60 ft..... **$79.95**



DX-CC "No-Trap" 80-40-20-15-10M Dipole or Inverted-V. Overall length: 82 ft.....**$119.95**

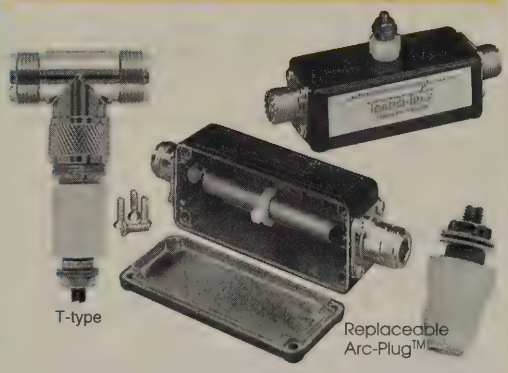
DX-DD "No-Trap" 80 and 40 meter Dipole or Inverted-V. Overall length is only 82 ft **$89.95**

DX-EE "No-Trap" 40-20-15-10 meter Dipole or Inverted V. also covers 30-17 & 12 meters with a tuner. 40 ft overall..... **$99.95**

DX-Series Monoband Dipoles Full-size dipoles utilizing the Delta-C Center Insulator with built-in SEP Arc-Plug® Static Electricity Protector. Fully assembled using the Delta -C, 12 ga. insulated high-strength solid copper wire, CIN end insulators and 50 ft. nylon support rope. Feed with coaxial cable or open-line, rated for legal power. Cutting chart included

DX-80 For 3.5MHz (75-80M band), 133 ft. long. **$49.95**
DX-40 For 7 MHz (40M band), 66 ft. long..... **$39.95**
DX-20 For 14 MHz (20M band), 33ft. long..... **$39.95**

Transi-Trap® Surge Protectors



Alpha Delta Transi-Trap Surge Protectors are gas surge arresters which will protect your valuable ham equipment much more effectively than the lower cost air-gap types.

The heart of the unit is the **Arc-Plug™**, which consists of two electrodes hermetically sealed in a gas filled ceramic cylinder. It acts like a voltage dependent switch that can repeatedly carry large currents for brief periods of time. When a voltage surge occurs on your transmission line, an arc forms between the electrodes allowing it to conduct harmlessly to an independent ground connection, reducing feedline voltage to less than 30 volts. That's protection!

Transi-Traps are the choice of the U.S. Military, and government agencies, worldwide. Transi-Traps are designed for 50Ω coaxial cable and are available with standard SO-239 connectors or N-type connectors which extend operation through 1 GHz.

Model RT Rated at 200W thru 500 MHz..... **$32.95**
Model RT/N Rated at 200W thru 1GHz..... **39.95**
Model HV Rated at 2KW thru 500 MHz..... **35.95**
Model HV/N Rated at 2KW thru 1GHz..... **42.95**
Model LT "T"-type, rated at 200W thru 30 MHz..... **22.95**

DX-LB LOW BAND DIPOLE Covers 160-80-40 meters with an overall length of only 100 ft. Antenna performance and 2:1 VSWR bandwidth is site dependent and varies with height above ground and surrounding objects. The typical bandwidth is:

160M – 20kHz • 80M – 40 kHz • 40M – 300 kHz

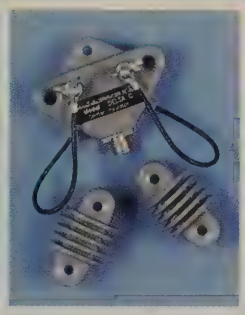
Full band coverage can be accomplishedwith an antenna tuner. Built with insulated 12ga. wire, stainless steel hardware and uses the Model DELTA-C static protected center insulator and CIN end insulators. Use coax or open wire line and configure as a dipole or inverted-V. Assembled and ready to go! ..**$119.95**

DX-ULTRA Shortwave Dipole Antenna Covers the AM Broadcast all the way through 30MHz. Provides efficient, low-noise, broadband performance for Medium Wave, Tropical, International SW, Military, Government, Embassy, Maritime, Aircraft, Commercial and Utility frequencies. Designed with *ISO-RES* inductors, parallel wire elements and the exclusive DELTA-C Center Insulator with the built-in SEP ARC-PLUG® Static Electricity Protector. Over all length is just 80 ft. and may be installed as a dipole, inverted-vee, or full sloper. It can be used with an antenna tuner as a transmit antenna up to 2000W. Connectors will accept either coaxial cable or balanced line. Comes fully assembled, ready to go! **$119.95**

Lightning Surge Protected 2 & 4 Position Coax Switches

Alpha Delta Coaxial Antenna Switches are made only in the U.S.A. The extremely high quality custom design features a cast housing with a constant impedance micro-strip cavity for outstanding performance through UHF. No lossy wafer switches are used, and a solid positive detent roller bearing switch drive leaves no-doubt to which position is selected.The unused antenna circuits are automatically grounded to reduce antenna interaction, noise and the effects of lightning. For the antenna circuit that is in use, the famous replaceable **Alpha Delta Arc-Plug™ Cartridge** provides continuous protection. Antenna switched in or out, you're well protected both ways! The Arc Plug is easily accessed through front panel so you may permanently mount the switch to any surface. Both the two and four position models handle full legal amateur power.

DELTA-2 2-position coaxial switch with SO-239 connectors, rated for up to 500MHz..... **$49.95**
DELTA-2/N 2-position coaxial switch with N-type connectors, rated for up to 1.3 GHz..... **$64.95**
DELTA-4 4-position coaxial switch with SO-239 connectors, rated for up to 500MHz..... **$79.95**
DELTA-4/N 4-position coaxial switch with N-type connectors, rated for up to 1.3 GHz..... **$89.95**



Antenna Hardware Kit

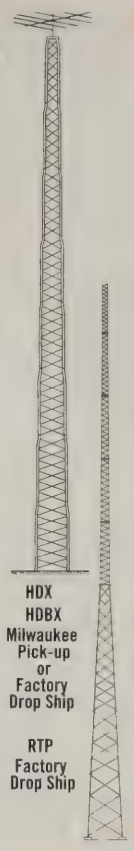
Don't assemble your next dipole antenna without one of these CENTER and END insulator combos. They're designed for strength, and to provide equipment protection with a built-in replaceable SEP ARC-PLUG® Static Electricity Protector. Ideal for dipoles, Vees, zepps and all kinds of SWL receive antennas. Feeds with either coaxial cable or balanced line. Rated for full legal power,

The **SEP ARC-PLUG** protector which is mounted in the DELTA-C center insulator "bleeds off" slow rising static electricity charges and routes them harmlessly to ground, before they can enter the shack thru the feedline. This is far more effective than DC grounded baluns or chokes, which can be "popped" by static charges. Dangerous static charges are developed from thunderstorms, high wind driven snow or desert sand, and have been measured to several thousand volts; so potent, they can actually puncture the dielectric of unterminated coaxial cable.

The **DELTA-C center insulator** and **DELTA-CIN** end-insulators are fabricated with an extremely rugged UV and RF resistant DELTALLOY material that is so tough, you can drop it off a roof without damage. You no longer need to rely fragile ceramic or glass insulators. Only stainless steel hardware used in the center insulator for salt air and other corrosive environments, and all internal connections are hard soldered for highest reliability.

DELTA-C Antenna hardware kit Center insulator, 2 end-insulators, and SEP ARC-PLUG Protector ...**$29.95**
DELTA-CIN End-insulators (separate)..... ea. **$1.00**

TOWERS & ROTATORS



HDX
HDBX
Milwaukee Pick-up or Factory Drop Ship

RTP
Factory Drop Ship

ROHN®

Heavy Duty HDX-Series Towers for HAM RADIO

All steel with X-brace construction for strength that allows a free-standing configuration without guy wires at 70 mph windspeed.with antennas up to 10 sq. ft. wind area and boom lengths not exceeding 10 ft. The galvanized steel provides an attractive and maintenance-free finish. The entire tower can be assembled on the ground and hinged up in to position with the optional hinged base, or built vertically, section by section. Supplied with BXB base stubs for concrete mounting, rotator plate, mast clamp and hardware. All makes of rotators can be installed on the rotator plate inside of the top section. Tubing furnished that can be held in place with the mast clamp on the top plate to act as a thrust sleeve for a 1-1/4 in. mast.

Model	Height.	Sections	Windload @ 70 mph	Weight	PRICE
HBX-40/BXB-6	40 ft.	5	10 sq. ft.	276 lbs	$399.95
HBX-48/BXB-7	48 ft.	6	10 sq. ft.	353 lbs	499.95
HBX-56/BXB-8	56 ft.	7	10 sq. ft.	444 lbs	629.95

Heavier Capacity HDBX-Series

Same structural features of the HDX, but capable of up to 18 sq. ft. of antenna capacity at 70 mph wind speed.

Model	Height.	Sections	Windload @ 70 mph	Weight	PRICE
HDBX-40/BXB-7	40 ft.	5	18 sq. ft.	330 lbs	$469.95
HDBX-48/BXB-8	48 ft.	6	18 sq. ft.	422 lbs	619.95

RTP-Series

A new line of Rohn self-supporting amateur towers designed to the latest EIA revisions. All models are hot dip galvanized after fabrication with a minimum of 2 oz. of zinc per square ft of surface. They are shipped complete with the necessary sections, rotator plate, top plate, short base or foundation hardware, grounding materials and anti-climb warning sign. Some sections are also supplied with step bolts for climbing. The rotator plate is pre-drilled to accept the most popular rotators. The top plate is predrilled to accept a TB-3 thrust bearing for a 2 inch mast or a TB-4 for a 3 inch mast. The thrust bearing is optional and must be ordered separately. These towers are designed for 70, 80 or 90 mph basic wind speeds and to accommodate most amateur antenna loads to heights of 190 feet. Shown here is a selection of popular ham models.

Model	Height.	Sections	Windload @ 70 mph	Weight	PRICE
SSO40D70RPT	40 ft.	2	16.7 sq. ft.	501 lbs	$1199.00
SSO50D70RTP	50 ft.	3	15 sq. ft.	564 lbs	1439.00
SSO60D70RTP	60 ft.	3	15 sq. ft.	1013 lbs	2099.00
SSO70D70RTP	70 ft.	4	13.3 sq. ft.	1076 lbs	2269.00
SSO80D70RTP	80 ft.	4	13.3 sq. ft.	1539 lbs	3119.00
SSO90D70RTP	90 ft.	5	11.7 sq. ft.	1656 lbs	3369.00

Glen Martin Engineering

Featuring a selection of complete Aluminum Tower Packages, Roof-Top Tripods and the *Hazer* Antenna Tram System. Factory Drop Ship. Price includes 48-State Shipping.

U.S. TOWER

Self-supporting steel crank-up towers Three compact models: **TMM-series** • Six standard models: **TX-series** • Five heavy-duty models: **HDX-series** • Seven tubular crank-up models: **MA-series.**• Accessories • Factory Drop Ship

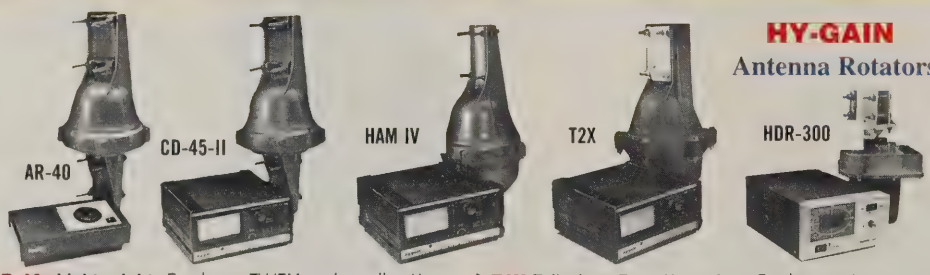
HY-GAIN

Steel Crank-up Towers

Four models available: 37, 52, 54 and 70 ft.
Factory Drop-Ship

See Price List & Index for more Information on thse Manufacturers products

HY-GAIN Antenna Rotators



▶**AR-40 Lightweight** For large TV/FM and smaller Ham Antennas up to 3.0 sq. ft. windload area when mounted in-tower, or 1.5 sq. ft. mast mounted with supplied lower support bracket. Rotor: 17⅜"h x 8" dia., 12 ball bearings, disc brake. Accepts mast sizes up to 2 1/16" diameter. Automatic, silent control box – dial and touch for desired direction. Use Belden 8448 8-wire control cable. 14 lbs. ... **HYG 305 $229.95**

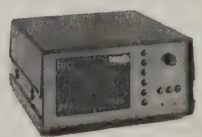
▶**CD-45-II Medium Duty** For antennas up to 8.5 sq. ft. windload area when mounted in-tower, or 5 sq. ft. when mast mounted with supplied lower support bracket. Rotor unit: 17⅜"h x 8" dia., 48 ball bearings, disc brake. Accepts mast sizes up to 2 1/16" diameter. Illuminated directional indicator, separate snap action brake and rotation switches. Meter face reversible for N or S center scale, as desired. Use Belden 8448 8-wire control cable. 20 lbs. ..... **HYG 302 $329.95**

▶**HAM IV Heavy Duty** For medium-sized antennas with up to 15 sq. ft. windload area mounted in-tower, or 7.5 sq. ft. mast mounted with opt.lower bracket. Rotor: 13½"h x 8" dia., 98 ball bearings, electric locking steel wedge brake. Accepts mast sizes up to 2 1/16" dia. Illuminated indicator, separate snap-action brake and rotation switches, North or South center scale. Use Belden 8448 8-wire cable. 24 lbs (304) **$439.95** ▶**HAM V** has DCU-1 control box (307) **$749.95**

▶**T2X Tailtwister Extra Heavy Duty** For large antennas up to 20 sq. ft. windload when mounted in-tower, or 10 sq. ft. mast mounted with optional lower support bracket. Rugged casting –14 1/16"h x 9 5/16" dia., 138 ball bearings, electric locking steel brake. Accepts mast sizes up to 2 1/16" diameter. Illuminated directional indicator, separate snap action brake and rotation control switches, North or South center scale. Use Belden 8448 8-wire control cable. 28 lbs. .....**HYG 303 $529.95**

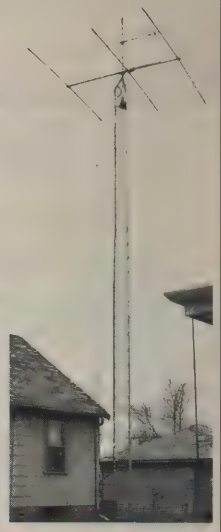
▶**HDR-300/A Deluxe Extra Heavy-Duty** In tower mount – for large antenna arrays up to 25 sq. ft. windload. Rotor: 7"x 9" x 10"h, 138 ball bearings, solenoid operated locking brake. Accepts masts up to 3" in dia. Digital directional indicator accurate to 1°. Separate brake and rotation controls. Use Belden 8448 8-wire control cable. 55 lbs. .... **HYG 300 $999.95**

Digital Rotator Control Unit



▶**DCU-1** Digital & Analog displays with 6 presets; preprogram your favorite beam headings! The ROTATE knob sets bearing within 1 degree. RS-232 input with pass-thru for computer control. Automatic break delay, motor slow down, automatic calibration, programmable center of rotation. For models T2X or Ham IV.....**HYG 306 $524.95**

UNIVERSAL Aluminum Towers



UNIVERSAL Model 18-50

50 ft. self-supporting aluminum tower shown installed at the QTH of **W9NHE** in Milwaukee, Wisconsin

FREE STANDING ALUMINUM TOWERS

LIGHTWEIGHT • RUST FREE
EASY TO ASSEMBLE & INSTALL
RUGGED • HAM RADIO, TV/FM

Configurations available from 30-100 feet with various wind load selections to meet almost any application. Self-Supporting – no need for unsightly guy wires at rated load. Factory Drop-Ship. For more information see the Price List and the Index for display page.

PHILIPS Antenna Rotator

▶**U-105 Antenna Rotator** Drive unit features a one-piece cast aluminum housing, large bearing surfaces, reinforced mast support and a ball bearing for the vertical load. Precision-cut, hardened steel drive train and high torque– well equipped to handle small to medium VHF/UHF amateur and the largest TV/FM arrays. The control unit is smooth and quiet, fully synchronized with the drive unit by synchronous motors.....**$69.95**

Rotation Range.....360° +5°-0	Support Mast Size .....1⅛–2" dia.
Rotation Time.....70 Seconds	Control unit ..... 7"w x 5⅞"d x 2⅜"h
Rotation Torque .....8 ft./lbs.	Weight (Rotator + control)..10 lbs
Max. Vertical load.....100 lbs.	Control cable (4-wire) ....Belden 8484

▶**TB-105 Support Bearing** for or extra-sturdy installation when using the U-105 rotator. Relieves wear and tear on the drive unit imposed by wind loads. All ball bearing design and weather-tight seal. Installs on the support mast above the U-105 .....**$18.25**

YAESU Special Rotators

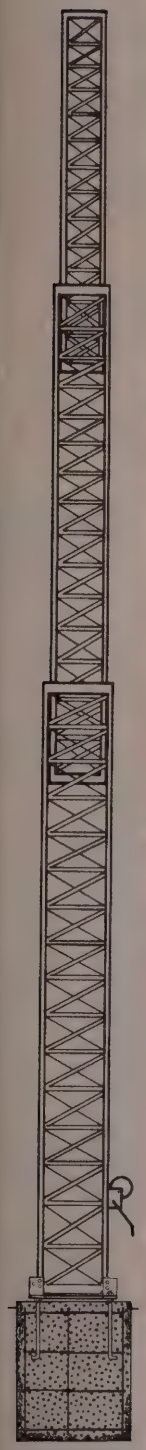
more rotators ... see other YAESU pages

▶**G-5400B Azimuth-elevation Rotator** For satellite, moonbounce, etc. where both horizontal and vertical rotation is required in a single unit. Full 180° rotation.in 58 seconds; 360°. azimuth rotation time: 50 seconds. Handles 440 lbs of vertical load and masts from 2"–2½" Control box has large dual meters which show separate azimuth and elevation indication with ±4% aiming accuracy. Use Belden 8448 8-wire control cable....**$539.95**

▶**G-500A 180° Elevation Rotor** For satellites, moonbounce work, etc. Smooth, 180° elevation rotation time: 60 seconds. Large meter with ±3% aiming accuracy. Accepts boom diameters 1¼"–1⅝". Belden 8448 8-wire control cable.....**$279.95**

U.S. TOWER CORPORATION

Check out our full line of accessories including: ★ Tower Motor Drives ★ 5' to 20' Antenna Masts ★ 20 ft. Chromolly Masts ★ Thrust Bearings ★ Mast Raising Fixtures ★ Rotating bases ★ Coax arms ★ Limit Switch Packages



MA SERIES CRANK-UP TUBULAR TOWERS

Will handle 10 sq. ft. antennas at 50 MPH winds.

MODEL NO.	HEIGHT MAX.	HEIGHT MIN.	NUMBER SECTIONS	WT #	SECTION OD Top	SECTION OD Bot.	BASE SIZE	AES PRICE
MA-40	40 ft.	21'6"	2	242	3" sq.	4½"	3'x3'x4'	$ 679.
MA-550	55 ft.	22'1"	3	435	3" sq.	6"	3'x3x5'	1069.
MA-550MDP*	55 ft.	22'1"	3	620	3" sq.	6"	3'x3'x5'	2618.
MA-770	71 ft.	22'10"	4	645	3" sq.	8"	3'x3'x6'	2258.
MA-770MDP*	71 ft.	22'10"	4	880	3" sq.	8"	3'x3'x5½'	3572.
MA-850MDP*	85 ft.	23'6"	5	1128	3" sq.	10"	4'x4'x6'	4814.

*Standard bases and eve mounts included with all towers (except MA-770, 770-MDP and 850 MDP
• MDP models complete with heavy-duty motor drive with positive pull down.

FREE STANDING HEAVY-DUTY CRANK-UP TOWERS

Will handle 18 sq. ft. antennas at 50 MPH winds.

MODEL NO.	HEIGHT MAX.	HEIGHT MIN.	NUMBER SECTIONS	WT #	SECTION OD Top	SECTION OD Bot.	BASE SIZE	AES PRICE
TX-438	38 ft.	22'	2	355	12½"	15"	3'x 3'x 5'	$1019.
TX-455	55 ft.	22'	3	670	12½"	18"	3'x 3'x 6'	1499.
TX-472	72 ft.	22'8"	4	1040	12½"	21⅝"	4'x 4'x7'	2529.
TX-472MDP*	72 ft.	22'8"	4	1210	12½"	21⅝"	4'x 4'x7'	4068.
TX-489	89 ft.	23'4"	5	1590	12½"	25⅝"	4'x 4'x 8⅙'	4399.
TX-489MDPL*	89 ft.	23'4"	5	1800	12½"	25⅝"	4'x 4'x 8⅙'	6598.

*TX-472MDP includes heavy duty motor drive with positive pull down. TX-489MDPL comes with heavy duty motor drive with dual level wind and positive pull down. MDPL models include fully operational limit switch packages.

FREE STANDING HEAVY-DUTY CRANK-UP TOWERS

Will handle 30 sq. ft. antennas at 50 MPH winds.

MODEL NO.	HEIGHT MAX.	HEIGHT MIN.	NUMBER SECTIONS	WT #	SECTION OD Top	SECTION OD Bot.	BASE SIZE	AES PRICE
HDX-538	38 ft	21'6"	2	600	15"	18"	3'x3'x 6¼'	$1319.
HDX-555	55 ft	22'	3	870	15"	21⅝"	4'x4'x 6½'	2309.
HDX-572	72 ft	22'8"	4	1420	15"	25⅝"	4'x4'x 8⅙'	3959.
HDX-572MDPL*	72 ft.	22'8'	4	1600	15"	25⅝"	4'x4'x 8⅙'	6048.
HDX-589MDPL*	89 ft.	23'8"	5	2440	15"	30⅝"	5'x5'x 8½'	7919.
HDX-689MDPL*	89 ft.	23'8"	5	3450	18"	37⅛"	5'x5'x 9½'	15,299.
HDX-5106MDPL*	106 ft.	24'8"	6	3700	15"	37⅛"	5'x5'x9½'	16,649.

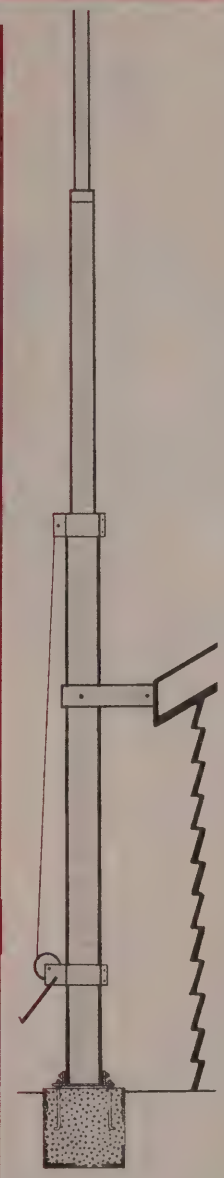
*Includes heavy-duty motor drives with dual level wind and positive pull down. MDLP models include fully operational limit switch packages. *HDX-689MDPL rated 60 sq. ft. of antennal at 50 mph winds. HDX-5106MDPL rated at 35 sq. ft. of antenna at 50 mph winds

FREE STANDING "LOW-PROFILE" COMPACT CRANK-UP TOWERS

Will handle 30 sq. ft. antennas at 50 MPH winds.

MODEL NO.	HEIGHT MAX.	HEIGHT MIN.	NUMBER SECTIONS	WT #	SECTION OD Top	SECTION OD Bot.	BASE SIZE	AES PRICE
TMM-433SS*	33 ft.	11'4"	4	315	10"	18"	3¼'x3'x6'	$1089.
TMM-433HD	33 ft.	11'4"	4	400	12½"	20⅞"	3'x3'x5¾'	1319.
TMM-541SS	41 ft.	12'	5	430	10'	20⅞"	3'x3'x5⅓'	1429.

* Rotators must be top mounted



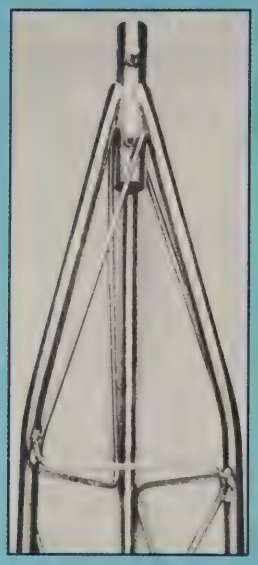
THE PRICE LIST HAS A COMPLETE LIST OF ACCESSORIES

Need More Info?

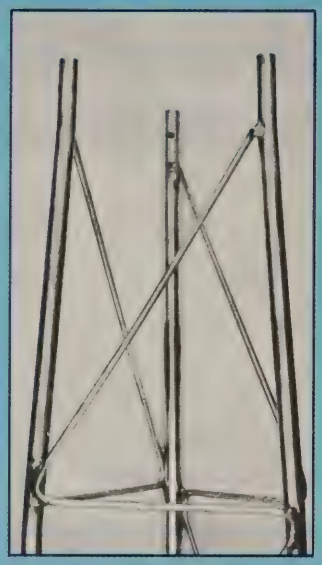
Get a detailed U.S. Tower Catalog by sending a request to:
Amateur Electronic Supply • 5710 W. Good Hope Road • Milwaukee, WI 53223

Tilt-over Base

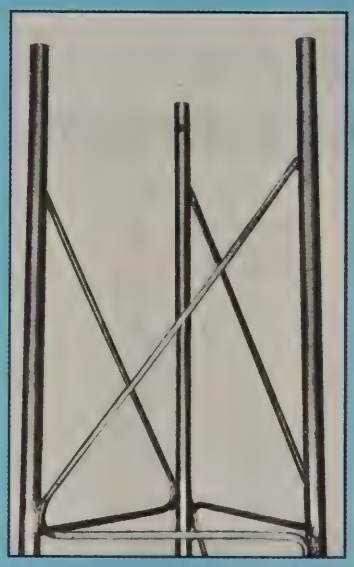
UNIVERSAL TOWERS



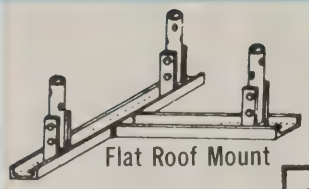
TOP SECTION



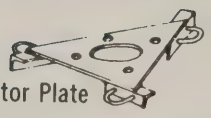
TAPER SECTION



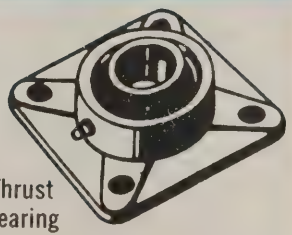
STRAIGHT SECTION



Flat Roof Mount

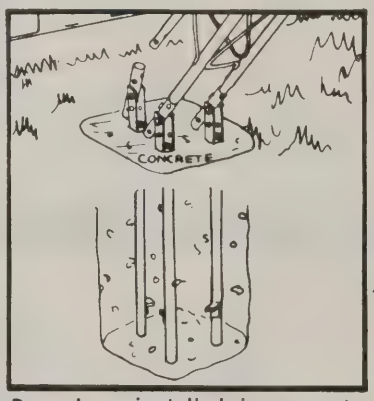


Rotor Plate



Thrust Bearing

Base Legs



Top Section with Thrust Bearing Plate

Base Legs installed in concrete showing Hinge-Over feature.

To: **AMATEUR ELECTRONIC SUPPLY®**
5710 W. Good Hope Road
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DE-605
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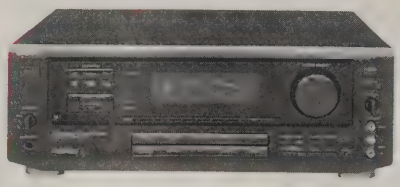

✦Digital Signal Processing with 12 acoustic environments ✦ 100W per channel x 2, 8Ω 20-, 20,000Hz, 0.09% ✦ 100W per channel x 3, 8Ω 1,000Hz, 0.8% THD ✦ Surround 50W per channel x 2, 8Ω 1,000Hz, 0.8% THD ✦ Dolby® Pro-Logic® surround sound decoding ✦ 4Ω/8Ω switch ✦ Soundfield link ✦ A/V system remote controls

DE-805
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STRGA8ES
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✦120W per channel x 3, 8Ω/4Ω 20-20,000Hz, 0.05% ✦ Surround 50W per channel x 2. 8Ω 1,000Hz, 0.8% THD ✦ Digital signal processing with 24 acoustic environments ✦ Dolby® AC-3™ decoder ready ✦ Digital Parametric Equalizer ✦ Digital Dolby® Pro-Logic® surround sound decoding ✦ Programmable remote control

STRGX700ES
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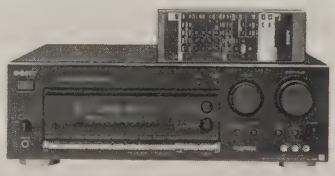

✦ 70W/channel x 3, 8Ω /4Ω , 20-20,000, 0.15% THD ✦ Surround 25W per channel x 2, 8Ω 1,000Hz, 0.8% THD ✦ Digital Signal Processing with 5 acoustic environments ✦ Dolby® Pro-Logic® decoding for surround sound ✦ Audio/Video Unicommander™ remote control

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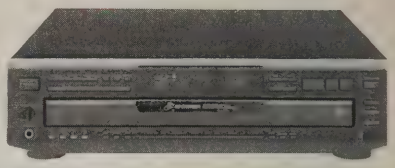
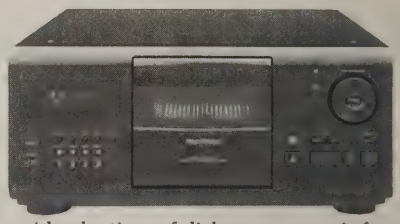
CDP-CE505
CAROUSEL 5-DISC CHANGER



✦ Play one, exchange 4 capability ✦ Hybrid pulse D/A converter ✦ Custom File™ memory for 172 disks ✦ Digital Volume control ✦ S-Link™ connector for use with compatible Sony receivers ✦ Remote Commander™ wireless remote control.

CDP-CX200
200-DISC CHANGER



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YOUR CHOICE OF 3 DSS SYSTEMS

SAS-BS2

Basic System includes: Satellite Antenna, Digital Satellite Receiver & Remote Control. Allows hook-up of 1 TV and 1 VCR or 2 TV's (both TV's would be tuned to the same channel and controlled by the single receiver)

SAS-BD2

Dual Output system. This system includes an advanced Satellite Antenna that gives you the ability to add an optional second receiver. With this system and an additional receiver, you will be able to watch two different channels from 2 different locations.

SAVE $200 until 12/31/96

SAS-AD2

Similar to the dual-output system previously described, with several advanced features. **Multi-event programmable timer:** lets you program your DDS receiver to turn on, select the channel and automatically turn off the unit so you can record shows on you VCR even when you're not home. **Advanced UHF remote** to control your receiver even if hidden in a cabinent or stored in another room!

THINGS YOU NEED TO KNOW...

✦ The DSS dish must be mounted facing South in order to work. ✦ Roof mounting is not possible if trees or buildings obstruct the southern view. DSS needs a clear line of sight. ✦ Your local community may have restrictions on satellite antennas. ✦ Permission may be needed from the building owner if you live in anything other than a single family residence. ✦ DSS may be viewed on more than one TV and two different channels at once with additional equipment (ask about options!) ✦ DSS programming is a subscriber service, in addition to or instead of regular Cable TV. Call Audio Plus for details! ✦ DSS does not broadcast local affiliates of the major networks such as CBS, NBC, ABC and Fox, therefore a TV antenna may be needed for local area reception.

CAM CORDERS SONY VCR'S

Call for SPECIAL PRICING!

CCD-TRV81

This Sony Handycam Vision camcorder gives you high-performance features and functions: ✦ 4" SwivelScreen™ LCD ✦ Hi8 Format (400 lines of resolution) ✦ Hi-Fi Stereo Sound ✦ 5-Hour Recording time on One Tape ✦ SteadyShot™ Stabalization ✦ Precision ✦ 30x Digital/1.5x Optical Zoom ✦ Super DNR ✦ Optimum Recording ✦ Time Base Correction ✦ Intelligent Accessory shoe ✦ RC Time Code.

CCD-TR84

The CCD-TR93 features SteadyShot® picture stabilization. Picture remains stable if you have an unsteady hand or zoom way out. Advanced Color Viewfinder with new built-in solar window panel, high resolution LCD show clear image & fine detail. 10x variable-speed zoom, with precision digital zoom that goest up 24x. Stereo Hi-Fi Audio Sony's most asked for features. The advanced Color Viewfinder makes a big difference. High resolution LCD shows you a clear image. A 1.5x magnifying lens, gives a bigger full-color view of the action.

CCD-TRV-11

✦ 2-1/2" LCD shows you a clear image; watch the action! ✦ Worry-Free™ Recording ✦ 12x Variable Speed Zoom Lens ✦ Digital Noise Reduction

SLV-690

VHS Hi-Fi stereo; MTS stereo TV reception ✦ 4-head dual azimuth playback and record for superb picture quality ✦ VCR-Plus+® system: Timer programming as easy as dialing a phone number ✦ Crystal clear freeze, frame by frame, variable speed play ✦ Multi-brand TV remote control ✦ APC II-adaptive picture control II for superb picture quality ✦ Digital auto tracking ✦ Multi-ligual on-screen help ✦ High-speed rapid access™ ✦ 3 hour backup

SLV-760

Dual azimuth 4-head recording and playback ✦ Crystal clear freeze frame, variable speed slow motion ✦ Digital auto tracking ✦ VHS Hi-Fi stereo recording & playback for wide dynamic range and full frequency response ✦ VCR-Plus+® programming ✦ MTS stereo tuner receives stereo broadcasts ✦ Sony's LS feature package: AutoClock™ sets time from TV broadcasts; ✦ Multi-brand programmable TV remote controller ✦ Adaptive picture contol (APC) ✦ Control "S" input

SLV-790

✦ VHS Hi-Fi stereo; MTS Stereo TV reception ✦ 4-head dual azimuth recording/playback, ✦ VCR Plus+® system ✦ Autoclock™ ✦ Cabl;e mouse ✦ Mult- brand TV remote with shuttle ✦ Multi-lingual on-screen help ✦ Front panel A/V inputs ✦ EZ set-up

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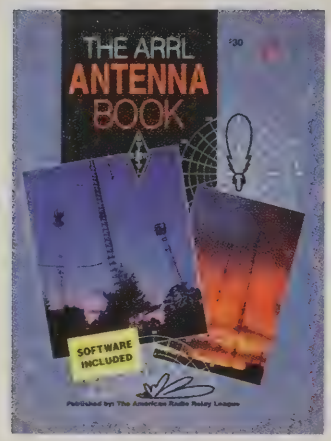
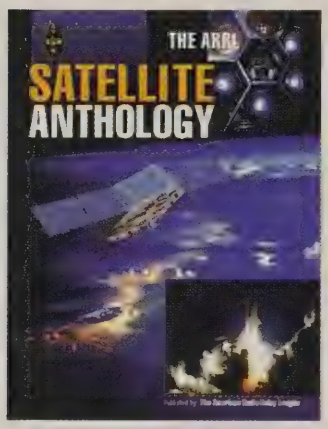
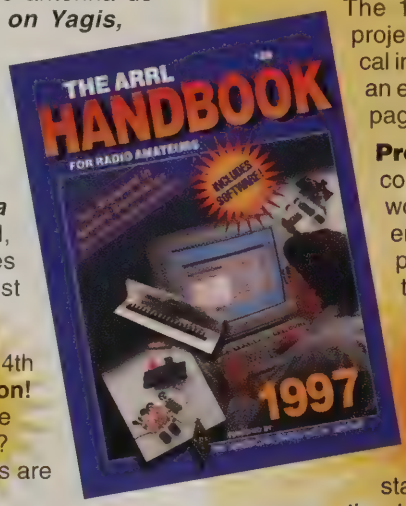


The ARRL Antenna Book 17th Edition, includes software, 736 pages, **$30**. The definitive book on ham antennas—and everything related to antennas! The 17th edition presents ***complete and readable coverage*** of antenna fundamentals, propagation, transmission lines, Yagis and quads, as well as all popular wire antenna designs. ***New chapters on Yagis, Propagation and Transmission Lines*** are based on the latest computer modeling tools. If it's software you're looking for, the 17th edition includes ***a wealth of software for the PC*** by noted authors K6STI, W1FM and N6BV. ***The ARRL Antenna Book*** includes everything hams need to choose and install the best antenna for every situation.



Satellite Anthology, 4th Edition, **$12 NEW Edition!** What will the new Phase 3D satellite *do*, anyway? Which amateur satellites are easiest to use? What equipment and antennas do I need? You'll find the answers—and a great deal more—in this compilation of articles from *QST*, the *AMSAT Journal* and the *World Wide Web*. A perfect introduction to the excitement of space communications!



The 1997 ARRL Handbook for Radio Amateurs, 1997 Edition, includes software, **$38**.

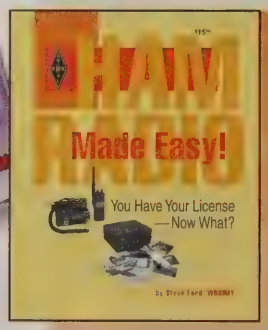
The 1997 edition is packed with the new projects, new software and updated practical information that has made the **Handbook** an essential part of every ham's library. 1200 pages. More than 1000 illustrations.

Projects! New for '97: a digital frequency counter; two one-evening projects for your workshop: an inductance-measuring front end for your digital voltmeter, and a companion capacitance-measuring front end; transmitter/receiver switch for older equipment—and far too many others from previous editions to list here.

Software! New or revised for '97: updated TISFIND database makes it a snap to find information on over 1000 equipment and parts suppliers; a new standard-value-capacitor filter design program; the database that lists all ***QST Product Reviews*** from 1970 to the present; grid-locator program for VHFers.

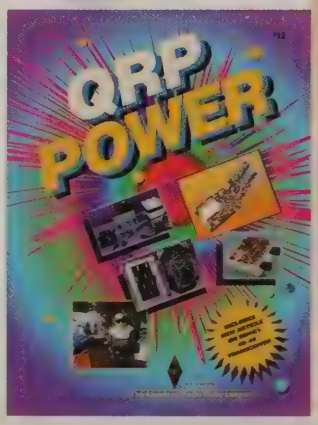
All applications work under *Windows* and most work under DOS as well.

QST on CD-ROM*, 1995 Edition, $19.95** Individual issues of *QST* are great. So is this *Windows*-based CD-ROM, featuring the ***full text of every issue—every article, column, product review and New Ham Companion section! Use the sophisticated search engine to find anything you like, quickly and efficiently. Added bonus: All issues of *QEX: The ARRL Experimenter's Exchange* and *NCJ, The National Contest Journal.*



Ham Radio Made Easy, by Steve Ford, WB8IMY, **$15.95**

This may be the only beginner-level book with "attitude." With a sprinkling of wit and opinion, ***Ham Radio Made Easy*** will get you on the air quickly and painlessly. This is one book you'll enjoy reading, whether you're into repeaters, packet, satellites, the HF bands—or whatever. No jargon. No mind-numbing mathematics. Just practical advice you can use right away.



QRP Power, 1st Edition, **$12 NEW!** Whether you've just been bitten by the urge to operate flea power, or you've already discovered just how much fun it is to operate with 5 watts or less, this is the book you've been looking for. It's crammed with projects you can build and resource information you can use. In addition to the best recent QRP-related articles from *QST*, *QEX* and *The ARRL Handbook*, there's a new, in-depth article on NN1G's popular 40-40 transceiver.

The 1996-1997 Repeater Directory, 25th Edition, **$8**

Whether your license has just arrived or you're a long-time ham, ***The ARRL Repeater Directory*** has the information you need. The handy, pocket-sized *Directory* includes more than 20,000 listings for voice and digital repeaters located in North, Central and South America. But it's much more than a handy way to find a repeater: You'll also find band plans; a CTCSS tone chart; a list of frequency coordinators, and a wealth of other useful information.

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e-mail: pubsales@arrl.org World Wide Web: http://www.arrl.org/

A New Image(setter) for QST Magazine...

If you have a copy November 1996 QST, check out the article on page 50, by QST's Rick Lindquist, KX4V. It's about AES's donation of a Linotype-Hell Imaging and Film Processing System to the American Radio Relay League.

The equipment originally valued at nearly $100,000 became available after an upgrade to a faster, state-of-the-art system. For the League, it was an advance in imaging capability for their various publications. QST Advertising Manager - Brad Thomas, KC1EX, raves about the improvement in graphics quality and the dramatic increase in imaging speed over their old system.

Ray Grenier, K9KHW, along with Jim Clifford, drove from Milwaukee, WI to Newington, CT to deliver and set it up and train the ARRL graphics personnel. QST Editor Mark Wilson, AA2Z, provided great accommodations and made sure that Ray and Jim had a full tour of the whole League.

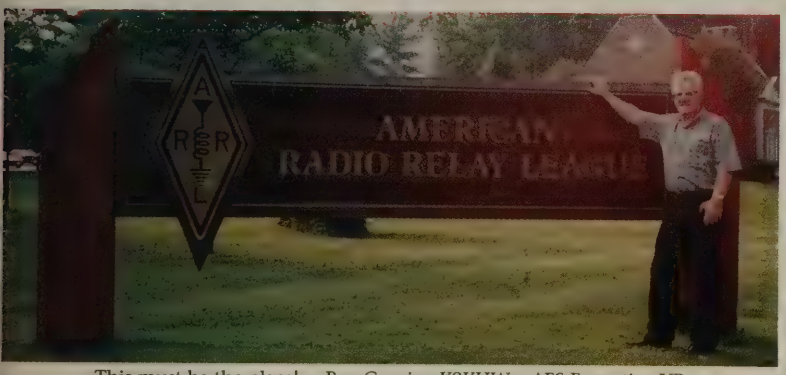
It's a formidable task to produce QST magazine each month, but most impressive, is how everyone at the league is devoted to implementing its Member Services and promoting the hobby.

If you every have a chance, stop in and get the ARRL tour. Its worth seeing the "roots" of Amateur Radio, checking out the exhibits in the museum and operating from W1AW.

A Big Handshake & Thanks to AES from Dave Sumner, K1ZZ – ARRL Executive VP

League Shots ...

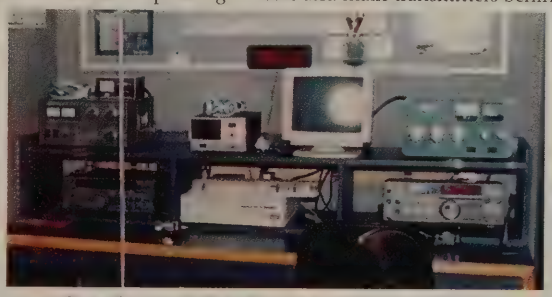
Jim checking out the ARRL Museum – the Ghosts of QSOs past!



This must be the place! – Ray Grenier, K9KHW – AES Executive VP

Unloading the Goodies – who's in charge here?

W1AW operating console and main transmitters behind glass – Awesome!



One of several W1AW guest operating positions

A W1AW original!

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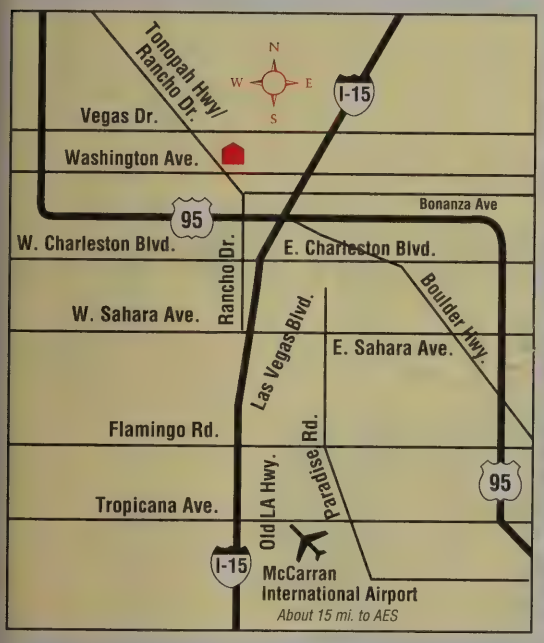

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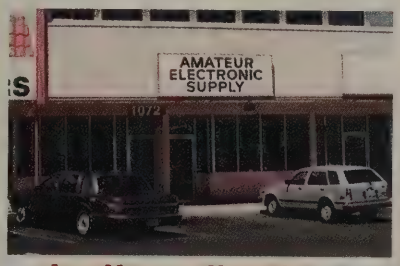

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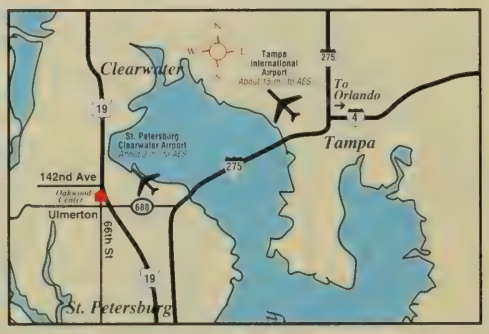

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Some Helpful Abbreviations
ABREVIACIONES IMPORTANTES

AMP	Amplificador
ANT	Antena
AT	Acoplador automatico de antena
BATT	Batteria
BKT	Braket de montura
BPR	Guarda choque
CGR	Cargador
CIG	Conector cigarillo
CNTR	Contador
DB	Decibeles
DLX	Lujo
DPLX	Duplexador
EL	Elemento
FREQ	Frequencia
GND	Tierra
GTR	Labio de ventana
HT	Radio de mano
HVY	Pesado
KYR	Llave
MA	Miliamperes
MAG	Magnetico
MAINT	Mantemiento
MIC	Microfono
MT	Montura
MTG	Montura
NMO	Montura Motorola
PROG	Programable
PS	Fuente de poder
PWR	Poder
RCVR	Receptor
REM	Remoto
SENS	Sensitividad
SPKR	Bocina
SPLX	Simplex
SYS	Sistema
TTP	Teclado de botones
VOL	Volumen
W/	Con
WPM	Palabras por minuto
XCVR	Transceptor

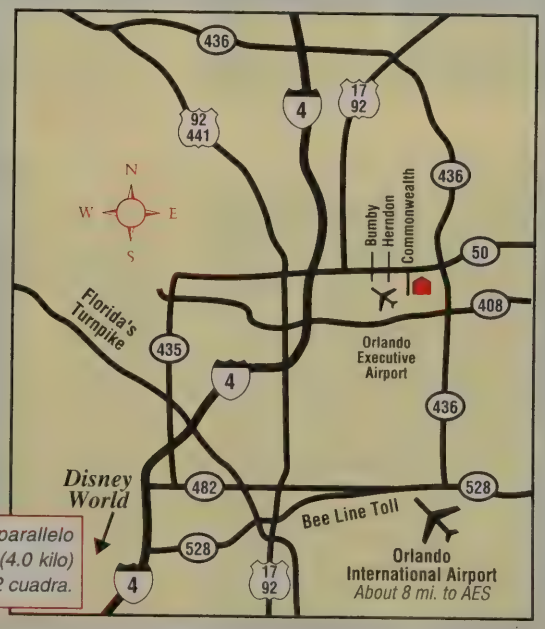
Para Contactar:

AMATEUR ELECTRONIC SUPPLY® • 621 Commonwealth Avenue, Orlando, Florida 32803, EUA
Tel. 1-407-894-3238; Toll Free 1-800-327-1917; Fax. 1-407-894-7553; Internacionales 1-407-898-1166

Forma de pago: El pago que se prefiere es por transferencia de fondos. No se aceptan giros bancarios internacionales. Las tarjetas internacionales de crédito se aceptan únicamente en nuestros salones de venta. Nuestra dirección para la transferencia de fondos es: Barnett Bank of Orlando, Fashion Square Branch, Orlando, Florida. Routing #063103193, para crédito a Amateur Electronic Supply – Acct. #1300009536.

Método de envío: El envío se hará de acuerdo con sus instrucciones. Si UD. no las indicia AES hallará el método más adecuado.

Garantía: La fábrica garantiza sus equipos únicamente dentro de los Estados Unidos. Si su equipo necesitara reparación debe devolverlo a AES con una copia de la garantía y de la factura dentro del plazo autorizado por el fabricante. AES se reserva el derecho de reparar o substituir el equipo que no funcione como diseñado por razones que no resultaron por daño durante envio. Al recibír el equipo que no funcione o por defectos debe notificarse a AES antes de los 10 días después de recibido. El equipo debe empacarse en la caja original usando los materiales de empaque originales. **El costo del envío, tanto de ida como de vuelta, es por cuenta del cliente.** Los precios y garantías pueden cambiarse sin previo aviso. Algunos productos no se pueden ser exportados a ciertos países de acuerdo con las legislaciones locales.



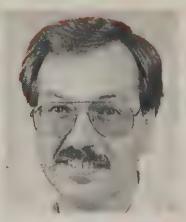
I-4 este hasta la salida 41 (Amelia) continuar parallelo hasta Colonial Dr. Doblar a la derecha 2.6 millas (4.0 kilo) hasta Commonwealth Ave. doblar a la Derecha 1/2 cuadra.

SOME of the AES® Team – we're just a Phone Call Away!

AES® MILWAUKEE Wisconsin
414-358-0333
1-800-558-0411

CARL WB9STM

CHRIS N9LBS


DALE N9BRX MGR

DICK KE9QU

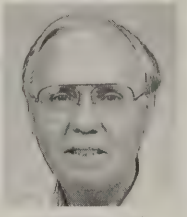
GARY L. KA9YTB

GARY S. W9NR

JAMES N9CYL

JEFF N9EDQ

JOHN AB9G


MILES K9HMQ

PAUL W9KHO

RAY K9KHW

RICK N9PMR

RON WA9VRY

JARED KB9LTV

AES® WICKLIFFE Ohio
216-585-7388
1-800-321-3594

BEN AA8AH

BOB WB8WEN

DAVE WB8BAG MGR

ED N8FIN

JOHN WA8PKB

PHIL WD8AAN

AES® ORLANDO Florida
407-894-3238
1-800-327-1917

BRUCE WD4HIM

Hablo español

CHARITY

Hablo español

EDDIE KD4RAZ

ERNIE K1HO

GIL K4ISK

GRANT K4IQW MGR

JEFF KC4POD

Hablo español

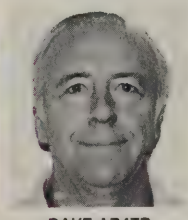
RODRIGO TI2WD

Hablo español

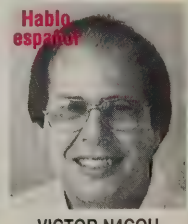
MARCIAL NP4XB

STUART N4IPX

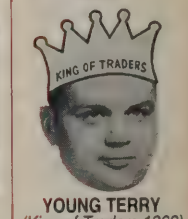
AES® CLEARWATER Florida
813-539-7348
1-888-226-7388


DAVE AB4ZR

LEN K4BDP MGR

Hablo español

VICTOR N4COU

TERRY W9DIA
Owner



YOUNG TERRY
(King of Traders 1962)

AES® LAS VEGAS Nevada
702-647-3114
1-800-634-6227

BOB KG7D

LARRY KC7QJO

LUKE KK7BW

MEL N6SJQ

SQUEAK AD7K MGR

TOM N7GBJ

Out & about...

(left) Spotted at the 1996 Dayton Hamfest was Don Arnold, WD4FSY and his "body mobile". Don, the Outbacker Antenna man, recently sold out to Alpha Delta so that he could devote full time to world-wide missionary work. We'll miss ya, Don!

(right-bottom) The two "Digital Kings" Mike Lamb, K7ML (AEA) and Phil Anderson, WØXI (Kantronics) yak it up at the Dayton '96 CQ bash.

At AES® SuperFest '96 Gordon West, WB6NOA (W5YI/West) and Bob Heil, K9EID (Heil Sound) evaluate a tasty Wisconsin bratwurst.

From the Archives ... Miles, K9HMQ our Service Manager, in his shop sometime in 1965. No solid-state radios or test equipment in sight!

Our Full Service Department! ... a Great Reason to Buy your Ham Gear from AES®

MILES, K9HMQ • Milwaukee

BILL, WB7SAJ • Milwaukee

PAUL, N9KEZ • Milwaukee

WE'RE A FULL SERVICE DEALER!

Unlike other Dealers, when you purchase a New Radio from us, our Service Department is able to provide you with Outstanding Technical Service and assistance.

If you have a problem, we are determined to keep you on the air! To do this, we offer Priority Warranty Service on ALL New Radios that we sell. You can be assured that if your New Radio fails within 10 days after receiving it, it will be repaired promptly, or we'll replace it! If a failure occurs after the 10 day priority period, it will be repaired under our "Warranty Repairs First" policy, which will get you back on the air with minimum delay.

TECHNICIANS • We have 7 full-time and 4 part-time technicians. Three are shown in their shops in Milwaukee. Also pictured are: John, WA8PKB in Wickliffe, OH; Gil, K4ISK & STUART, N4IPX in Orlando, FL and Bob, KG7D in Las Vegas, NV.

EXPERIENCE • Our technicians are all Factory-Trained on the major brands (ALINCO, ICOM, KENWOOD, YAESU) and others. They have more than 70 years of cumulative experience in the ham service field and are FCC and NABER certified.

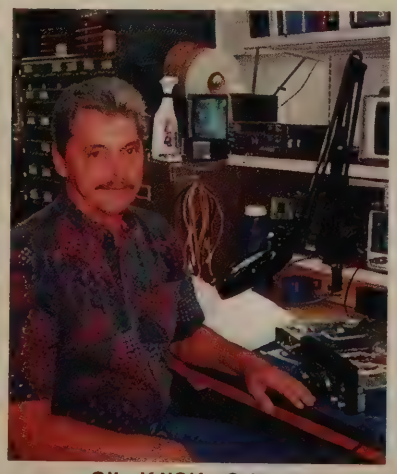
WE'RE EQUIPPED TO DO THE JOB! • Each shop uses a state-of-the-art Hewlett Packard 8920A test set, which replaces several pieces of conventional test equipment. It combines twenty-two different instruments including a spectrum analyzer, tracking generator, digital scope, distortion and SINAD meter, all mode signal generator, frequency counter and more! It's highly stable, very accurate and helps speed repairs because it's I-BASIC computer allows the technicians to store custom test parameters for equipment that they frequently service. We also use H-P's digital scopes and DVM's, plus we have the latest in high-tech soldering stations for accurate and time-saving work on the latest delicate surface mount technology

REPAIRS • Whether you purchased from us or not, we can extend our Professional Technical Service to your "out of warranty late model ham gear. This is on a time available basis, and provided that service parts are still available. To make arrangements, call the our Service Department in Milwaukee at 414-358-0333; ask for Miles.

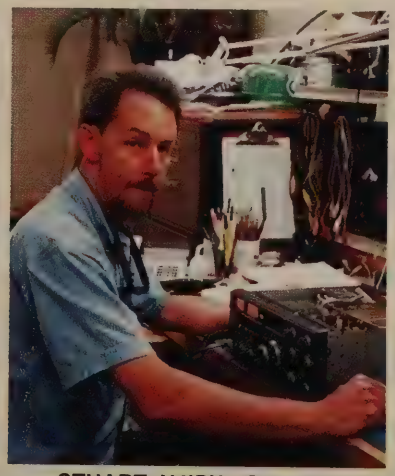
LABOR RATES • Our rate for Out-of-Warranty Service is $54.00 per hour. Note: There is a $72.00 minimum charge for service on HF/VHF Base Stations, and a $54.00 minimum charge on VHF Mobiles and Handheld transcivers.

POLICIES AND OTHER INFORMATION • See Index for our Policies, Warranty Information and Telephone Numbers of the Major Manufacturers.

JOHN, WA8PKB • Wickliffe



GIL, K4ISK • Orlando



STUART, N4IPX • Orlando

BOB, KG7D • Las Vegas

AES® has 1000's of items for the HAMSHACK & WE MAKE IT EASY!

★ Huge Inventory of Major items and all related Accessories
★ Knowledgeable Salespersons ★ Outstanding Mail Order Service
★ Toll Free Lines at all locations ★ Internet Access ★ BBS
★ Service Department ★ Major Credit Cards ★ Gift Certificates ★ More!

SAME DAY ORDER PROCESSING – When You Need It ... Its' There!

FLAT RATE SHIPPING via UPS GROUND in the LOWER 48 STATES

AMOUNT OF ORDER	SHIPPING CHARGES
Up to $100.00	$4.00
$100.01 to $500.00	$8.00
$500.01 to $1,499.99	$12.00
$1500.00 and UP	$16.00

Flat Rate Does Not Apply To Drop Shipments

IMPORTANT INFORMATION

1. Shipping charges are based on the Order Total at the time of the initial shipment. Changes made to a partially shipped order will not affect the shipping charges.
2. The order amount on which charges are determined is pre-coupon and pre-tax.
3. 2nd and 3rd shipments (back-orders) are shipped PREPAID at AES® expense via UPS Ground Service, only).
4. COD fees are not included. Add $6.50 per carton.
5. The Shipping Charge includes adequate insurance.
6. Other UPS methods (Red, Blue & Orange), RPS, Priority Mail, Parcel Post and Federal Express are charged at Regular Rates without any credit for UPS ground rates.
7. Questions? – Check with your salesperson when ordering.

50,000 sq. ft Warehouse in Milwaukee, WI

Most orders Picked and Packed for Same Day Shipment!

Gift Certificates - Let 'em make the Choice!

AMATEUR ELECTRONIC SUPPLY
5710 W. GOOD HOPE ROAD.
MILWAUKEE, WISCONSIN 53223
(414) 358-0333

NO. 0000

DATE _____ 19___

THIS CERTIFICATE ENTITLES _____

TO MERCHANDISE VALUED AT _____ DOLLARS $_____

PRESENTED BY _____

_____ AUTHORIZED SIGNATURE

Can't decide what to give that favorite Ham Operator on a Birthday, Anniversary, Holiday, or Special Day?

We have Gift Certificates and a selection of over 6,000 Major items and Accessories to choose from.

Certificates may be purchased from our Milwaukee store by calling:

1-800-558-0411

AMATEUR ELECTRONIC SUPPLY®

ORDER BLANK

5710 W. Good Hope Road • Milwaukee, Wisconsin 53223
Phone: (414) 358-0333 • Toll Free: 1-800-558-0411
You may FAX this order to: (414) 358-3337

ACCOUNT NO. _____ Date _____
Name _____ Call _____
Address _____
City/State _____ Zip _____
You may telephone me at *(Be sure to include area code)*:
Home # _____ Hours: _____
Work # _____ Hours: _____

SHIP TO *(If other than at left)*:
_____
_____
_____

IF YOU HAVE MOVED since your last order, please show your old address:
_____
_____

■ **SHIPPING METHODS** Orders are shipped via **UPS Ground** at the FLAT-RATE shown at the bottom. Shipments to APO/FPO & Puerto Rico are via Priority Mail. *For Faster Service* – select one of these express methods: ❒ UPS Next Day Air ❒ 2nd Day Air ❒ 3-Day Select ❒ Federal Express ❒ Express Mail. These alternate methods are not flat-rated so allow for additional shipping charges (no flat-rate credit). Orders exceeding UPS or USPS weight, size or value limits will be shipped via Truck or Air Freight collect *Shipping charges taxable in WI, FL & NV.

■ **TRADE-INS:** Use a sturdy carton and plenty of packing material for protection. Ship PREPAID and FULLY INSURED. Do not use Bus or Parcel Post. Collect shipments will not be accepted. AES® assumes no responsibility for damage in transit or for filing damage claims. Canadians, inquire locally about taxes and/or customs charges before releasing your shipment.

Federal Express® Delivery Service Available

QTY.	DO NOT USE	MANUFACTURER • PART OR MODEL # • DESCRIPTION	PRICE EACH	TOTAL

FINAL BALANCE DUE (LINE 10) TO BE PAID BY:

MasterCard VISA DISCOVER NOVUS American Express Cards

Account Number

Cardholder's Name — Card Expires

Cardholder's Signature — Date

LINE 1 —	Total Amount of Order	$
LINE 2 —	Subtract TRADE-IN Allowance (if any) ..... Enclose mail quotation or reference telephone quote & list Trade-in items. **IMPORTANT!** Persons having a Trade-in must check one of the choices in the box at the lower left of this Order Blank.	–
LINE 3 —	Shipping Charges (see METHODS, and below) ..... *Shipping Charges are taxable in Wisconsin, Florida & Nevada*	+
LINE 4—	Sales Tax: ❒ WI- 5.6%, ❒ FL- 6%, ❒ NV- 7%, ❒ OH-5.75% *For Ohio & Nevada figure tax from LINE 1 (before trade-in allowance)*	+
LINE 5—	Subtract here: AES Refund Checks, Gift Certificates or Manufacturer's Coupons (if any)	-
LINE 6 —	**Balance**	$
LINE 7 —	Due AES from previous order (if any)	+
LINE 8 —	Total Amount Due	$
LINE 9 —	Amount Enclosed	–
LINE 10 —	Final Balance Due (if any)	$

❒ **CHECK OR MONEY ORDER** For your protection — **DO NOT MAIL CURRENCY!** Send a Bank Check or Money Order. A Personal Check may delay shipping until it clears our bank. Please attach your remittance firmly to the top of this order blank.

❒ **COD** The total cost of Merchandise, Shipping charges and a $6.50 COD fee per package will be collected upon delivery. Only **Cash** or **Certified Check** accepted

MINIMUM $20.00 COD ORDER • NO AIR OR PARCEL POST COD's

IF YOU HAVE A TRADE-IN — CHECK ONE OF THE FOLLOWING:

❒ Hold this order until you receive and approve my Trade-in.
❒ Payment-in-full enclosed. Refund the allowance after my Trade-in is received and approved.
❒ Charge the **FULL AMOUNT** of my order to my Charge Card and Credit my trade-in allowance when my trade-in is received and approved.

UPS Ground flat-rate Shipping Charges: Orders up to $100.00 ($4.00); $100.01 to $500.00 ($8.00); $500.01 to $1499.99 ($12.00); $1500.00 & Up ($16.00)

Not applicable to faster UPS Shipping Methods shown on reverse side, Truck or Drop Shipments from manufacturers.

Cut along dotted line or make Photocopy

NEXT DAY AIR

NOT TO EXCEED IN LBS	ZONES 2	3	4	5	6	7	8	*124	125	*126
Letter	$10.50	$11.25	$12.00	$12.25	$12.50	$12.75	$13.00	$13.25	$13.25	$18.50
1	13.75	15.00	16.75	17.50	18.00	18.50	19.00	22.50	22.00	31.50
2	14.75	16.00	18.50	19.75	20.25	20.75	21.25	24.00	24.25	33.50
3	15.75	17.00	20.25	21.50	22.25	22.75	23.25	25.50	26.75	35.25
4	16.75	18.00	22.00	23.50	24.25	24.75	25.25	26.50	28.50	36.25
5	17.50	19.00	23.75	25.25	26.25	26.75	27.25	28.50	30.75	37.50
6	18.25	20.00	25.75	27.25	28.50	29.00	29.50	30.25	32.75	38.50
7	19.00	21.00	27.75	29.25	30.50	31.00	31.50	32.00	34.75	39.75
8	19.75	22.00	29.75	31.25	32.50	33.00	33.50	33.75	37.00	41.00
9	20.50	23.00	31.75	33.25	34.50	35.00	35.50	35.25	39.00	42.75
10	21.25	24.00	33.50	35.25	36.50	37.00	37.50	37.25	41.25	44.75
11	22.00	25.00	35.25	37.25	38.50	39.00	39.50	40.00	44.00	46.25
12	22.75	26.00	36.75	39.00	40.50	41.00	41.50	41.50	45.50	48.00
13	56.50	27.00	38.25	40.75	42.25	43.00	43.50	42.75	46.75	49.50
14	24.25	28.00	39.75	42.50	44.00	44.75	45.50	44.25	48.00	51.00
15	25.00	29.00	41.25	44.00	45.50	46.50	47.50	46.25	49.50	52.75
16	25.75	29.75	42.75	45.50	47.00	48.00	49.25	48.00	51.00	54.50
17	26.50	30.50	44.25	47.00	48.50	49.75	51.00	50.00	52.50	56.25
18	27.25	31.25	45.75	48.50	50.00	51.25	52.50	52.00	53.75	57.75
19	28.00	32.00	47.25	50.00	51.50	52.75	54.00	54.00	55.00	59.50
20	28.75	32.75	48.75	51.50	53.00	54.25	55.50	55.75	56.25	61.00
21	29.50	33.50	50.25	53.00	54.50	55.75	57.00	57.25	57.25	62.50
22	30.25	34.25	51.75	54.50	56.00	57.25	58.50	58.75	58.25	64.25
23	31.00	35.00	53.25	56.00	57.50	58.75	60.00	60.75	60.00	66.00
24	31.75	35.75	54.75	57.50	59.00	60.25	61.50	61.75	61.00	67.00
25	32.50	36.50	56.25	59.00	60.50	61.75	63.00	62.75	62.00	68.00
26	33.25	37.25	57.75	60.50	62.00	63.25	64.75	64.25	63.50	69.50
27	34.00	38.00	59.25	62.00	63.50	64.75	66.25	65.75	65.25	71.25
28	34.75	38.75	60.75	63.50	65.00	66.50	67.75	67.50	67.25	72.75
29	35.50	39.50	62.25	65.00	66.75	68.00	69.50	69.00	69.00	74.25
30	36.25	40.25	63.75	66.50	68.25	69.50	71.00	70.50	70.75	75.75
31	37.00	41.00	65.25	68.00	69.75	71.25	72.75	71.75	72.00	77.00
32	37.75	41.75	66.75	69.75	71.50	72.75	74.25	72.75	73.00	78.00
33	38.50	42.50	68.25	71.50	73.25	74.50	76.00	74.00	74.25	79.25
34	39.25	43.25	69.75	73.25	74.75	76.00	77.75	75.50	75.75	81.25
35	40.00	44.00	71.25	75.00	76.25	77.75	79.25	77.25	77.50	83.00
36	40.75	44.75	72.75	76.75	78.00	79.50	81.00	78.25	78.50	84.25
37	41.50	45.50	74.25	78.50	79.50	81.00	82.75	80.00	80.00	86.25
38	42.25	46.25	75.75	80.25	81.25	82.75	84.50	82.00	82.00	88.00
39	43.00	47.00	77.25	82.00	83.00	84.50	86.25	83.75	83.75	89.75
40	43.75	48.00	78.75	83.75	84.75	86.25	88.00	85.50	85.50	91.50
41	44.50	49.00	80.25	85.25	86.25	88.00	89.75	87.00	87.00	93.00
42	45.25	50.00	81.75	86.75	88.00	89.75	91.50	88.25	88.25	94.25
43	46.00	51.00	83.25	88.25	89.50	91.25	93.00	89.50	89.50	95.50
44	47.00	52.00	84.75	89.75	91.25	93.00	94.75	90.50	90.50	96.50
45	48.00	53.00	86.25	91.00	92.75	94.50	96.25	91.75	91.75	97.75
46	48.75	54.00	87.75	92.25	94.25	96.00	97.75	92.25	92.25	98.25
47	49.50	55.00	89.25	93.50	95.75	97.50	99.50	93.00	93.00	98.75
48	50.25	56.00	90.75	94.75	97.25	99.25	101.00	93.75	93.75	99.75
49	51.00	57.00	92.25	96.00	98.75	100.75	102.50	95.00	95.00	101.00
50	51.75	58.25	93.75	97.25	100.50	102.25	104.25	96.25	96.25	102.25
51	52.75	59.50	95.25	98.75	102.25	104.25	106.25	97.25	97.25	103.25
52	53.75	60.75	96.75	100.25	104.00	106.00	108.00	98.75	98.50	104.25
53	54.75	62.00	98.25	101.75	105.75	108.00	110.00	100.00	99.25	105.25
54	55.75	63.25	99.75	103.25	107.25	109.75	112.00	101.00	100.00	106.25
55	56.75	64.50	101.25	104.75	109.00	111.75	113.75	103.00	102.00	108.00
56	57.50	65.75	102.75	106.25	110.50	113.75	115.75	104.75	104.50	110.00
57	58.50	67.00	104.25	107.75	112.00	115.50	117.75	107.00	107.00	112.50
58	59.50	68.25	105.75	109.25	113.75	117.50	119.75	109.50	109.75	114.75
59	60.50	69.50	107.25	110.75	115.25	119.50	121.75	111.25	111.75	117.00
60	61.50	71.00	109.00	112.25	116.75	121.25	123.50	113.25	113.75	119.00
61	62.75	72.50	110.75	114.50	119.00	123.50	126.25	115.75	116.25	121.50
62	64.00	74.00	112.50	116.50	121.00	125.50	128.75	117.75	118.25	123.50
63	65.25	75.50	114.25	118.50	123.00	127.75	131.25	119.75	120.25	125.75
64	66.50	77.00	116.00	120.50	125.25	130.00	133.50	121.75	122.50	127.75
65	67.75	78.50	117.75	122.50	127.25	132.25	135.75	123.50	124.25	129.50
66	69.25	80.00	119.50	124.50	129.50	134.25	138.00	125.00	125.50	130.75
67	70.50	81.50	121.25	126.50	131.50	136.50	140.25	126.75	127.25	132.75
68	71.75	83.00	123.00	128.50	133.50	138.75	142.50	128.75	129.25	134.75
69	73.00	84.50	124.75	130.50	135.75	141.00	144.75	130.25	130.75	136.25
70	74.50	86.00	126.75	132.50	137.75	143.00	147.00	132.25	133.00	138.25

ANY FRACTION OF A POUND OVER THE WEIGHT WHOWN TAKES THE NEXT HIGHER RATE

2nd DAY AIR

NOT TO EXCEED IN LBS	ZONES 2	3	4	5	6	7	8	*224	225	*226
Letter	$5.50	$5.75	$6.00	$6.25	$6.50	$6.75	$7.00	$10.00	$9.75	$14.00
1	6.00	6.25	6.50	6.75	7.25	7.75	8.00	11.25	10.75	22.50
2	6.25	6.75	7.25	7.50	8.25	8.50	9.00	12.50	12.25	24.00
3	6.75	7.25	8.00	8.50	9.25	9.75	10.00	14.00	14.25	25.50
4	7.25	7.75	8.75	9.50	10.50	11.00	11.50	15.25	15.75	26.75
5	7.75	8.50	9.50	10.50	12.00	12.50	13.00	16.50	17.00	27.75
6	8.50	9.25	10.50	11.50	13.50	14.25	14.75	18.50	18.75	28.75
7	9.00	10.00	11.50	12.75	15.00	15.75	16.50	20.00	20.00	30.00
8	9.50	10.75	12.25	14.00	16.50	17.50	18.25	21.50	21.25	31.50
9	10.00	11.25	13.25	15.25	17.75	18.75	19.50	23.25	22.75	32.50
10	10.50	12.00	14.00	16.25	19.00	20.00	20.75	25.00	24.00	34.00
11	11.00	12.50	15.00	17.25	20.25	21.25	22.00	26.75	25.75	35.00
12	11.50	13.25	15.75	18.25	21.50	22.50	23.25	28.00	27.50	36.25
13	12.25	13.75	16.50	19.25	22.75	23.50	24.50	29.25	29.00	37.00
14	12.75	14.50	17.50	20.25	24.00	24.75	25.75	30.50	30.50	38.50
15	13.25	15.00	18.25	21.25	25.25	26.00	27.00	32.25	32.00	40.75
16	13.75	15.75	19.00	22.25	26.50	27.25	28.25	33.50	33.50	42.25
17	14.25	16.25	20.00	23.25	27.75	28.75	29.50	34.75	34.75	43.25
18	14.75	17.00	20.75	24.00	29.00	30.00	31.00	36.25	36.25	45.00
19	15.25	17.50	21.50	25.00	30.25	31.75	32.75	37.50	37.25	46.00
20	15.75	18.25	22.25	26.00	31.50	33.25	34.50	39.25	38.50	47.25
21	16.25	18.75	23.00	27.00	32.75	34.75	36.25	41.00	40.00	49.00
22	16.75	19.50	23.75	27.75	34.00	36.50	38.00	42.50	41.00	50.25
23	17.25	20.00	24.50	28.75	35.25	38.00	39.50	44.25	42.00	51.50
24	17.75	20.50	25.25	29.75	36.50	39.50	41.00	46.00	43.00	53.00
25	18.25	21.25	26.00	30.75	37.75	40.75	42.50	47.25	44.25	54.25
26	18.75	21.75	26.75	31.50	39.00	42.00	44.00	48.75	45.25	55.50
27	19.50	22.50	27.50	32.50	40.25	43.50	45.50	50.00	46.25	56.50
28	20.00	23.00	28.25	33.50	41.50	44.75	47.00	51.25	47.25	57.50
29	20.50	23.75	29.00	34.25	42.75	46.25	48.50	52.50	48.25	58.50
30	21.00	24.25	29.75	35.25	44.00	47.50	50.00	54.25	49.50	59.75
31	21.50	24.75	30.75	36.25	45.25	49.00	51.50	55.25	50.25	60.50
32	22.00	25.50	31.50	37.00	46.50	50.25	52.75	56.25	51.00	61.25
33	22.50	26.00	32.25	38.00	47.75	51.50	54.00	57.50	51.75	61.75
34	23.00	26.75	33.00	38.75	49.00	53.00	55.50	58.50	52.50	62.25
35	23.50	27.25	33.75	39.75	50.25	54.25	56.75	59.50	53.50	62.75
36	24.00	28.00	34.50	40.50	51.50	55.50	58.00	60.50	54.50	63.75
37	24.50	28.50	35.25	41.50	52.75	57.00	59.25	61.50	55.50	64.75
38	25.00	29.25	36.00	42.25	54.00	58.25	60.75	62.50	56.50	66.25
39	25.75	29.75	36.75	43.25	55.00	59.50	62.25	63.50	57.50	68.00
40	26.25	30.50	37.50	44.00	56.25	60.75	63.50	64.50	58.50	69.75
41	26.75	31.25	38.25	45.00	57.50	62.25	65.00	65.50	59.75	71.00
42	27.25	31.75	39.00	45.75	58.75	63.50	66.25	66.50	60.75	72.00
43	28.00	32.50	39.75	46.75	59.75	64.75	67.50	67.50	61.75	73.00
44	28.50	33.00	40.50	47.50	61.00	66.00	68.75	68.50	62.75	74.25
45	29.00	33.75	41.25	48.50	62.25	67.25	70.00	69.50	63.75	75.25
46	29.50	34.25	42.00	49.25	63.25	68.50	71.25	70.50	64.75	76.25
47	30.00	35.00	42.75	50.25	64.50	69.75	72.50	71.50	65.75	77.00
48	30.75	35.50	43.50	51.00	65.75	71.25	73.75	72.50	66.75	77.50
49	31.25	36.25	44.25	52.00	67.00	72.50	75.00	73.50	67.75	78.00
50	31.75	36.75	45.00	52.75	68.00	73.75	76.25	74.75	69.00	78.75
51	32.25	37.50	45.75	53.75	69.25	75.00	77.50	76.00	70.25	79.50
52	32.75	38.00	46.50	54.50	70.50	76.25	78.75	77.00	71.50	80.50
53	33.25	38.75	47.25	55.50	71.50	77.50	80.00	78.00	72.75	81.50
54	33.75	39.25	48.00	56.25	72.75	78.75	81.25	79.00	74.00	82.50
55	34.25	40.00	48.75	57.25	73.75	80.00	82.50	80.25	75.25	83.75
56	34.75	40.50	49.50	58.00	75.00	81.25	83.75	81.25	76.25	85.25
57	35.25	41.25	50.25	59.00	76.25	82.50	85.00	82.25	77.25	86.75
58	35.75	41.75	51.00	59.75	77.25	83.75	86.25	83.50	78.50	88.25
59	36.25	42.25	51.75	60.75	78.50	85.00	87.50	84.75	79.75	89.75
60	36.75	43.00	52.50	61.75	79.75	86.25	89.00	86.00	81.00	91.25
61	37.50	43.50	53.25	62.50	80.75	87.50	90.25	87.25	82.25	93.50
62	38.00	44.25	54.00	63.50	82.00	89.00	91.75	88.50	83.50	94.75
63	38.50	44.75	54.75	64.50	83.25	90.25	93.00	89.75	84.75	96.50
64	39.00	45.50	55.50	65.50	84.50	91.50	94.50	91.00	85.75	98.00
65	39.50	46.25	56.25	66.50	85.75	93.00	95.75	92.00	87.00	99.50
66	40.25	46.75	57.25	67.25	86.75	94.25	97.25	93.25	88.25	101.25
67	40.75	47.50	58.00	68.25	88.00	95.50	98.50	94.00	89.50	101.75
68	41.25	48.00	58.75	69.25	89.25	97.00	100.00	95.00	90.75	102.50
69	41.75	48.75	59.75	70.25	90.50	98.25	101.25	96.00	91.75	103.50
70	42.25	49.50	60.50	71.25	91.75	99.50	102.75	97.00	92.75	104.50

ANY FRACTION OF A POUND OVER THE WEIGHT SHOWN TAKES THE NEXT HIGHER RATE.

3 DAY SELECT

NOT TO EXCEED IN LBS	ZONES 2	3	4	5	6	7	8
1	$4.30	$4.50	$4.70	$4.90	$5.10	$5.40	$5.60
2	4.40	4.60	4.90	5.50	6.00	6.30	6.60
3	4.80	5.20	5.60	6.20	6.80	7.20	7.70
4	5.10	5.70	6.20	6.90	7.70	8.20	8.80
5	5.50	6.10	6.60	7.30	8.10	8.60	9.20
6	5.90	6.60	7.20	8.00	8.90	9.60	10.20
7	6.30	7.10	7.80	8.70	9.80	10.50	11.30
8	6.70	7.50	8.40	9.40	10.60	11.40	12.30
9	7.10	8.00	9.00	10.10	11.40	12.40	13.40
10	7.50	8.50	9.60	10.80	12.30	13.30	14.50
11	7.90	8.90	10.00	11.20	12.70	13.80	14.90
12	8.20	9.40	10.60	11.90	13.50	14.70	15.90
13	8.60	9.90	11.20	12.60	14.40	15.60	17.00
14	9.00	10.40	11.80	13.30	15.20	16.60	18.00
15	9.40	10.90	12.40	14.00	16.10	17.50	19.10
16	9.80	11.40	13.00	14.70	16.90	18.50	20.20
17	10.20	11.80	13.40	15.20	17.40	19.10	20.90
18	10.60	12.30	14.00	15.90	18.20	19.80	21.60
19	11.00	12.70	14.60	16.60	19.00	20.80	22.70
20	11.30	13.20	15.10	17.30	19.80	21.70	23.70
21	11.70	13.70	15.70	18.00	20.70	22.70	24.80
22	12.10	14.20	16.30	18.70	21.50	23.60	25.80
23	12.50	14.60	16.70	19.10	22.10	24.30	26.60
24	12.90	15.10	17.30	19.80	22.80	25.00	27.30
25	13.30	15.60	17.90	20.50	23.60	25.90	28.40
26	13.70	16.10	18.50	21.20	24.50	26.90	29.40
27	14.10	16.60	19.10	21.90	25.30	27.80	30.50
28	14.50	17.00	19.50	22.30	25.80	27.50	31.20
29	14.80	17.40	20.10	23.00	26.70	29.40	32.30
30	15.20	17.90	20.70	23.70	27.50	30.30	33.30
31	15.60	18.40	21.30	24.40	28.20	31.10	34.10
32	16.00	18.90	21.90	25.10	29.10	32.00	35.10
33	16.40	19.40	22.50	25.90	29.90	33.00	36.20
34	16.80	19.80	22.90	26.30	30.50	33.60	36.90
35	17.20	20.30	23.50	27.00	31.30	34.50	38.00
36	17.60	20.80	24.10	27.70	32.10	35.50	39.00
37	17.90	21.30	24.70	28.40	32.90	36.20	39.80
38	18.30	21.80	25.20	29.10	33.70	37.20	40.80
39	18.70	22.20	25.80	29.80	34.50	38.10	41.90
40	19.10	22.60	26.20	30.20	35.10	38.70	42.60
41	19.50	23.10	26.80	30.90	35.90	39.70	43.70
42	19.90	23.60	27.40	31.60	36.80	40.60	44.70
43	20.30	24.10	28.00	32.30	37.60	41.60	45.80
44	20.70	24.60	28.60	33.00	38.30	42.30	46.50
45	21.00	25.10	29.20	33.70	39.20	43.30	47.60
46	21.40	25.50	29.60	34.10	39.70	43.90	48.30
47	21.80	26.00	30.20	34.80	40.50	44.80	49.40
48	22.20	26.50	30.80	35.60	41.40	45.80	50.40
49	22.60	27.00	31.40	36.30	42.20	46.70	51.50
50	23.00	27.40	32.00	37.00	42.90	47.50	52.20
51	23.40	27.90	32.60	37.70	43.80	48.40	53.30
52	23.80	28.30	33.00	38.10	44.30	49.00	54.00
53	24.20	28.80	33.60	38.80	45.20	50.00	55.10
54	24.50	29.30	34.20	39.50	46.00	50.90	56.10
55	24.90	29.80	34.70	40.20	46.80	51.90	57.20
56	25.30	30.30	35.30	40.90	47.70	52.80	58.20
57	25.70	30.80	35.90	41.60	48.40	53.60	59.00
58	26.10	31.20	36.30	42.00	48.90	54.20	59.70
59	26.50	31.70	36.90	42.70	49.80	55.10	60.80
60	26.90	32.10	37.50	43.40	50.60	56.10	61.80
61	27.30	32.60	38.10	44.10	51.50	57.00	62.90
62	27.60	33.10	38.70	44.80	52.30	58.00	63.90
63	28.00	33.60	39.30	45.60	53.00	58.70	64.70
64	28.40	34.00	39.70	46.00	53.60	59.30	65.40
65	28.80	34.50	40.30	46.70	54.40	60.30	66.50
66	29.20	35.00	40.90	47.40	55.20	61.20	67.50
67	29.60	35.50	41.50	48.10	56.10	62.20	68.60
68	30.00	36.00	42.10	48.80	56.90	63.10	69.60
69	30.40	36.50	42.70	49.50	57.80	64.10	70.70
70	30.70	36.80	43.10	49.90	58.20	64.50	71.10

ANY FRACTION OF A POUND OVER THE WEIGHT SHOWN TAKES THE NEXT HIGHER RATE

ZONE CHART

ZIP CODE PREFIXES . . . ZONE	ZIP CODE PREFIXES . . . ZONE
004-005 5	560-574 4
006-007 .....–	575-577 5
008 .....–	580-582 4
009 .....–	583 5
010-089 5	584 4
090-099 .....–	585-588 5
100-129 5	590-591 6
130-132 4	592-593 5
133-135 5	594-599 6
136-174 4	600-611 2
175-176 5	612 3
177-179 4	613 2
180-199 5	614-619 3
200-214 5	620-622 4
215 4	623-628 3
216 5	629-633 4
217 4	634 3
218-225 5	635-669 4
226 4	670-672 5
227 5	673-674 4
228-229 4	675-679 5
230-239 5	680-689 4
240-268 4	690-693 5
270-286 5	700-722 5
287-289 4	723-727 4
290-299 5	728-732 5
300-306 5	733 6
307 4	734-742 5
308-326 5	743 4
327-339 6	744-768 5
340-341 .....–	769 6
342 6	770-778 5
344 5	779-789 6
346-349 6	790-796 5
350-355 5	797-799 6
356-358 4	800-810 5
359-369 5	811 6
370-386 4	812 5
387-399 5	813-816 6
400-409 4	820 5
410 3	821 6
411-432 4	822-824 5
433-436 3	825 6
437-447 4	826-828 5
448-455 3	829-834 6
456-457 4	835-838 7
458-462 3	840-847 6
463-466 2	850-854 7
467-470 3	855 6
471 4	856-858 7
472-475 3	859-860 6
476-477 4	863-864 7
478-487 3	865-883 6
488-491 2	884 5
492 3	885 6
493-496 2	889-898 7
497-499 3	900-930 7
500-503 4	931 8
504 3	932-933 7
505 4	934 8
506-507 3	935-938 7
508-516 4	939-941 8
520 2	942 7
521-528 3	943-951 8
530-539 2	952-953 7
540 3	954-955 8
541-544 2	956-961 7
545-548 3	962-966 .....–
549 2	967-968 .....–
550-555 3	969 .....–
556-558 4	970-994 7
559 3	995-999 .....–

All UPS GROUND Shipments are at the AES FLAT RATE. The chart below shows faster UPS delivery methods and rates for shipments made from the Milwaukee store only. Rates for shipments from Branch Stores may vary.

NO CREDIT FOR UPS GROUND RATE

Manufacturer Information

AEA
2006 196th St. SW Units O & P
Lynnwood, WA 98036-7042
Service/Tech Suppport: 206-775-7373
Sales: 206-774-5554
Upgrade Hot Line: 206-774-1722
Literature Request Line: 800-432-8873
fax: 206-775-2340
www: http:aeainc.com
Limited Warranty: 1 year

ALINCO
438 Amapola Avenue, #130
Torrance, CA 90501
Customer Service: 800-6-ALINCO
fax: 800-6-ALINCO-0
e-mail: info@www.alinco.com
www: http:www.alinco.com
Limited Warranty: 1 year parts and labor. Within 15 days of purchase, extended 1 yr parts/labor warranty availble from **ALINCO**.

AMERITRON
P.O. Box 494 • Mississippi State, MS 39762
Shipping: 116 Willow Rd. Starkville, MS 39759
Customer Service: 601-323-8211
fax: 601-323-9810
Limited Warranty: 1 year on all products except 2 years on AL-80B. All tubes are guaranteed by the tube manufacturer

AZDEN
47 New Hyde Park Road
Franklin Square, Ny 11010
Information & Service: 516-328-7501
fax: 516-328-7506
Warranty: 2 years: 1st year, parts and labor; 2nd year, parts only.

COMET (NCG)
275 N. Grove St • Anaheim CA 92806
Customer Service: 714-630-4541
fax 714-630-7024
Limited Warranty: 1 year (90 days unlimited)

CUSHCRAFT Corporation
P.O Box 4680 • Manchester, NH 03108
Telephone: 603-627-7877
fax: 603-627-1764
Limited Warranty: 1 year, material defects & workmanship. (5 years on Golden 10 series)

GLEN MARTIN ENGINEERING
3620 Old Hwy 40 • Boonville, MO 65233
Telephone: 816-882-2734
www: http://worldwideweb.glenmartin.com
e-mail: info@glenmartin.com
webmaster@glenmartin.com
Limited Warranty: 90 days, repair or replace

HUSTLER
One Newtronics Place
Mineral Wells, TX 76067
Customer Service: 817-325-1386
fax: 817-328-1409
Limited Warranty: 1 year parts/labor.

ICOM AMERICA, Inc.
2380 116th Avenue NE • Bellevue, WA 98004
Telephone: 206-454-8155
Customer Service Hotline: 206-454-7619
Parts Department: 206-454-8155
fax: 206-454-1509
BROCHURE Hot line: 206-450-6088
e-mail: tech@icomamerica.com

ICOM AMERICA, Inc. continued
ICOM Regional Customer Service Centers
18102 Sky Park South., Suite 52-B
Irvine, CA 92614
Telephone: 714-852-8026
fax: 714-852-8716
www: http://www.icomamerica.som/icom
Canada
3071 #5 Road, Unit 9
Richmond, British Columbia
Canada V6X 2T4
Telephone: 604-273-7400
Limited Warranty: 1 year parts and labor

KLM
14792 172nd Drive S.E. • Monroe, WA 98272
Telephone: 360-794-2923
fax: 360-794-0294
e-mail: klm_antennas@msn.com
Warranty: 1 year.

KANTRONICS/RF CONCEPTS
1202 E. 23rd St. • Lawrence, KS 66046
Product Information: 913-842-7745
Service/Tech Suppport: 913-842-4476
24 hour BBS: 913-842-4678
fax: 913-842-2031
e-mail: service@kantronics.com
sales@kantrionics.com
www: http://www.kantronics.com
Limited Warranty: 1 year, parts and labor.

KENWOOD U.S.A.
P2201 E. Dominguez St. P.O. Box 22745
Long Beach, CA 90810
Telephone: 310-639-5300
National Ham Line: 800-752-0985
fax: 310-631-3913
Parts: 800-752-0985
Parts fax: 310-538-4919
BBS: 310-761-8284
www: http://www/kenwood.net
KENWOOD Service Center East
829 Lynnhaven Parkway, suite 130
Virginia Beach, VA 23452
Customer Relations: 804-340-1702
fax: 804-340-6809
Parts: 800-637-0388 • 516-483-5742
fax: 516-483-5904
Limited Warranty: 1 year, parts/labor.

LARSEN
3611 N.E. 112th Ave. • Vancouver, WA 98668
Customer Service: 206-944-7551
Full Warranty: 3 years.

MFJ ENTERPRISES, INC.
P.O. Box 494 • Mississippi State, MS 39762
76206.1763@compuserve.com
Shipping: 300 Industrial Park Rd.
Starkville, MS 39579
Telephone: 601-323-5869
Technical Support: 800-647-8324
fax: 601-323-6551
e-mail: 76206.1763@compuserve.com
www: http://cqinternet.com/mfj.htm
Warranty: 1 year – "no matter what".

MIRAGE
P.O. Box 494 • Mississippi State, MS 39762
Shipping: 116 Willow Road
Starkville, MS 39759
Telephone: 601-323-8287
fax: 601-323-6551

RF PARTS/DIAMOND ANTENNA
435 Pacific St. • San Marcos, CA 92069
Telephone: 619-744-1943
fax: 619-744-1943
e-mail: diamond@rfparts.com
Limited Warranty: 1 year, parts/labor.

STANDARD Amateur Radio, Inc.
P.O. Box 60714 • Niles, Il 60714
Telephone: 312-763-0081
fax: 312-763-3377
e-mail: rog@stdradio.com
stdamat@aol.com
www: http://www.stdradio.com
Limited Warranty: 1 year, parts/labor.

STARTEK
398 NE 38th St. • Fort Lauderdale, FL 33334
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fax: 612-452-4571
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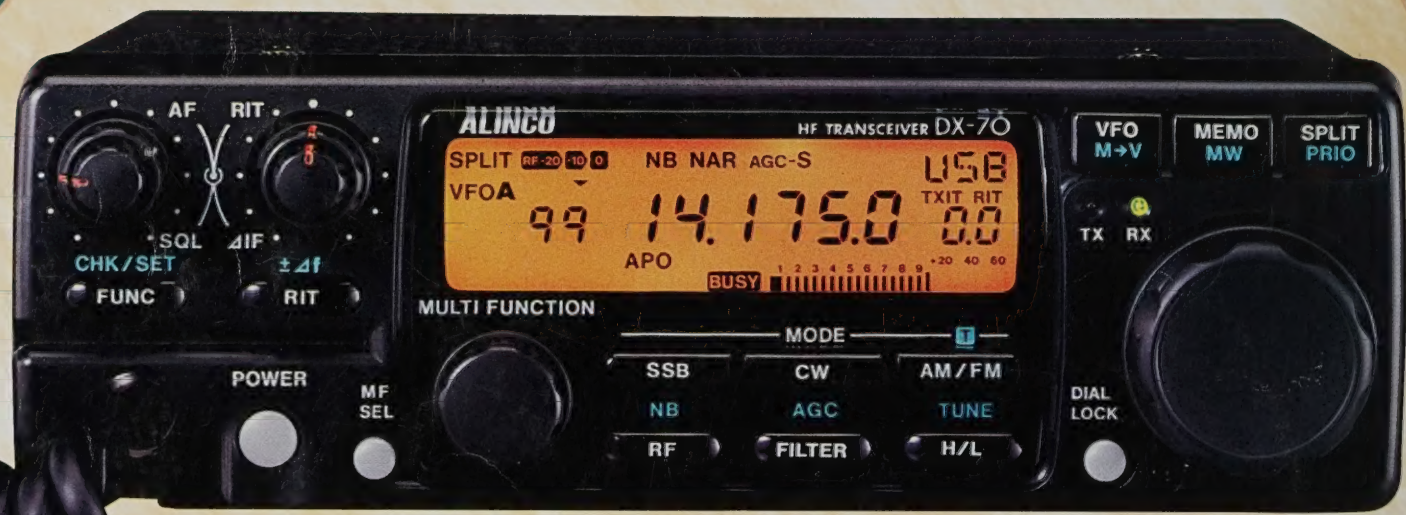

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